

GenCore version 4.5
Copyright (c) 1993 - 2000 CompuGen Ltd.

OM protein - protein search, using sw model

Run on: December 26, 2001 11:31:03 Search time 76.78 seconds
(without alignments)
194,454 Million cell updates/sec

Title: US-09-534-376a-8_copy_32_227
Perfect score: 105.3
Sequence: 1 FESGDSLSHAPDHAFATAY.....SCKMSKLVNYSVSLIPR 196

Score and tables: RUSUM62
Gapop 10.0 / Gapext 0.5

Selected: 219241 seqs, 76174552 residues

Total number of hits satisfying chosen parameters: 219241

Minimum DB seq length: 0
Maximum DB seq length: 200000000

Post-processing: Minimum Match 08
Maximum Match 1008
Listing first 45 summaries

Database: 1: PIR1:
2: PIR2:
3: PIR3:
4: PIR4:

Prod. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | Match | Length | IR | ID | Description |
|------------|-------|-------|--------|----|--------|--------------------|
| 1 | 105.3 | 100.0 | 419 | 2 | S69207 | vascular endothell |
| 2 | 195 | 18.5 | 272 | 2 | A41551 | vascular endothell |
| 3 | 188.5 | 17.9 | 190 | 2 | S52130 | vascular endothell |
| 4 | 175.5 | 16.7 | 190 | 2 | H40080 | ovine vascular end |
| 5 | 174.5 | 16.5 | 146 | 2 | S57956 | vascular endothell |
| 6 | 174.5 | 16.5 | 190 | 2 | H44881 | vascular endothell |
| 7 | 174.5 | 16.5 | 214 | 2 | A44881 | vascular endothell |
| 8 | 172.5 | 16.4 | 120 | 2 | A34787 | glioma-derived vas |
| 9 | 172.5 | 16.4 | 190 | 2 | A35987 | 16k vascular endot |
| 10 | 160 | 15.2 | 148 | 2 | H49530 | vascular endothell |
| 11 | 159.5 | 15.1 | 133 | 2 | H49530 | placental growth f |
| 12 | 151 | 14.3 | 149 | 2 | A41236 | vascular endothell |
| 13 | 148.5 | 14.1 | 188 | 2 | JC4680 | vascular endothell |
| 14 | 148.5 | 14.1 | 207 | 2 | JC4679 | placental growth f |
| 15 | 144 | 13.7 | 158 | 2 | A66125 | placlet-derived q |
| 16 | 133 | 12.6 | 245 | 1 | TVC188 | vascular endothell |
| 17 | 129 | 12.4 | 128 | 2 | H1295 | placlet-derived q |
| 18 | 128 | 12.2 | 200 | 2 | S25097 | platelet-derived q |
| 19 | 128 | 12.2 | 225 | 2 | S25097 | platelet-derived q |
| 20 | 128 | 12.2 | 241 | 1 | PFH062 | platelet-derived q |
| 21 | 126 | 12.0 | 226 | 1 | PFH062 | platelet-derived q |
| 22 | 125.5 | 11.9 | 225 | 1 | TVWVS | platelet-derived q |
| 23 | 124 | 11.8 | 226 | 2 | S08220 | platelet-derived q |
| 24 | 124 | 11.8 | 226 | 2 | S08220 | platelet-derived q |
| 25 | 116 | 11.0 | 271 | 2 | A65659 | platelet-derived q |
| 26 | 116 | 11.0 | 196 | 2 | H28064 | platelet-derived q |
| 27 | 111 | 10.5 | 211 | 1 | PFH061 | platelet-derived q |
| 28 | 106 | 9.8 | 197 | 2 | S25096 | platelet-derived q |
| 29 | 104 | 9.8 | 196 | 2 | A47459 | platelet-derived q |

| | | | | | | |
|----|-------|-----|-----|---|--------|--------------------|
| 30 | 102.5 | 9.7 | 166 | 2 | JN0248 | platelet-derived q |
| 31 | 102.5 | 9.7 | 198 | 2 | JN0735 | platelet-derived q |
| 32 | 101 | 9.6 | 196 | 2 | A48851 | platelet-derived q |
| 33 | 95 | 9.0 | 120 | 2 | A39555 | glycoprotein horne |
| 34 | 88 | 8.4 | 617 | 2 | S48160 | metalloproteinase |
| 35 | 85.5 | 8.1 | 96 | 2 | S74086 | collagen alpha |
| 36 | 85.5 | 8.1 | 118 | 2 | S16762 | gonadotropin alpha |
| 37 | 85.5 | 8.1 | 118 | 2 | A60626 | glycoprotein horne |
| 38 | 84.5 | 8.0 | 118 | 1 | UTCAA | glycoprotein horne |
| 39 | 84.5 | 8.0 | 118 | 2 | A40554 | hypothetical prote |
| 40 | 84.5 | 8.0 | 118 | 2 | T27211 | glycoprotein horne |
| 41 | 83.5 | 7.9 | 120 | 2 | A45585 | platelet-derived q |
| 42 | 83.5 | 7.9 | 120 | 2 | S15241 | platelet-derived q |
| 43 | 83.5 | 7.9 | 503 | 1 | YF8YAT | phenylalanine-18N |
| 44 | 83.5 | 7.9 | 503 | 1 | S54384 | envelope polypept |
| 45 | 82.5 | 7.8 | 676 | 2 | F85107 | hypothetical prote |

ALIGNMENTS

RESULT 1
S69207 Vascular endothelial growth factor C precursor - human

N:Alternate names: Flt4 ligand DHM
C:Species: Homo sapiens (man)
C:Date: 27 Apr 1996 #sequence-revision 01 Nov 1996 #text-change 08-Oct-1999
C:Accession: S69207, S61795; S71443; S67266, G02564
R:Joukov, V.; Rajasola, K.; Kallunki, A.; Chillov, D.; Lahtinen, I.; Kuk, E.; Sobel
EMBO J. 15, 1751, 1996

A:Title: Corrigendum: A novel vascular endothelial growth factor, VEGF-C, is a ligand
A:Reference number: S69207; M01D:96203094
A:Accession: S69207
A>Status: nucleic acid sequence not shown

A:Molecule type: mRNA
A:Residues: 1-419 <J001>
A:Cross-references: EMBL:X4216; NID:q1177488; PIDN:CA63907.1; PID:G221096; PID:q118
A:Note: The nucleotide sequence was submitted to the EMBL data library, December 1995

A:Note: only a part of the translation is shown
A:Note: This is a revision to the sequence from reference S61795
R:Joukov, V.; Rajasola, K.; Kallunki, A.; Chillov, D.; Lahtinen, I.; Kuk, E.; Sobel
EMBO J. 15, 290-298, 1996

A:Title: A novel vascular endothelial growth factor, VEGF-C, is a ligand for the Flt4
A:Reference number: S61795; M01D:96178224
A:Accession: S61795
A>Status: nucleic acid sequence not shown; not compared with conceptual translation

A:Molecule type: mRNA
A:Residues: 70-419 <J001>
A:Note: This sequence has been revised in reference S69207
A:Accession: S71443

A:Molecule type: protein
A:Residues: 1-419 <J002>
R:Joukov, V.; Gray, A.; Yuan, J.; Jouh, S.M.; Avraham, H.; Wood, W.L.
submitted to the EMBL data library, December 1995

A:Description: Vascular endothelial growth factor related protein (VRP): A ligand and
A:Reference number: S69208
A:Accession: S69208

A:Molecule type: mRNA
A:Residues: 1-419 <LEP>
A:Cross-references: EMBL:U41442; NID:q1150988; PIDN:AA65214.1; PID:q1150989
R:Mortis, J.C.
submitted to the EMBL data library, May 1996

A:Reference number: H01557
A:Accession: G02659
A>Status: preliminary; translated from GR/EMBL/DBJ
A:Molecule type: mRNA
A:Residues: 1-419 <MOR>

A:Cross-references: EMBL:U58111; NID:q1374420; PIDN:AA02909.1; PID:q1374427
C:Genetics:
A:Gene: GDB:VEGFC; VRP
A:Cross-references: GDB:380088; OMIM:601528
A:Cross-references: GDB:380088; OMIM:601528
A:Cross-references: GDB:380088; OMIM:601528
F:1-102/Domain: signal sequence #status predicted <PRO>
F:13-102/Domain: propeptide #status predicted <PRO>

A: Molecule type: mRNA
A: Residues: 1-190 x SHA
A: Cross-references: GB:X81380; NID:q587559; PIRN:CAA57143.1; PDB:q587560

| | Score | EB | Length |
|-----------------------|--------------|---------------------|--------|
| Query Match | 17.98; | | 190; |
| Best local similarity | 29.84; | Pred. No. 3, 5e-10; | |
| Matches | 42; | Mismatches | 56; |
| | conservative | 18; | Indels |
| | | | Gaps |
| | | | 3; |

[illegible]

RT:5011 - growth factor precursor (version 2) - bovine
E40980

vascular endothelial growth factor (VEGF)
C:Species: Bos primigenius taurus (cattle)
C:Date: 30-Jun-1992 #text_change 05-Nov-1999
C:Accession: 840800 #sequence_region 30-Jun-1992
F:Title: VEGF
F:Author: Cuthbert, G.; Kuan, W.-J.; Goodell, D.V.; Ferrara, N.
F:Journal: Science
F:Volume: 246
F:Pages: 1065-1069, 1999
F:Abstract: Vascular endothelial growth factor is a secreted angiogenic mitogen.
F:Accession: A40800
F:PubMed: 100490608

A. Accession: BA0080
A. Molecule type: mRNA
A. Positions: 1-190 bp
A. Cross references: Chrom76; HUGO gene club AAAS552; E. FID-016007
Richter, E.; Gospodarowicz, D.; Mitchell, R.; Silver, M.; Schilling, J.; Lutz, P., et al.
Biochem Biophys Res Commun 165, 1198-1206, 1989
Alfaro-Vasquez endothelial growth factor: a new member of the platelet-derived growth
A. Reference number: A376 / MO10, 901, 125
A. Accession: B31787

A: Molecular weight: mRNA
A: Residues: 27-190 - TSS:
A: Cross-referenced: GR:M31836; NID:q16.0808; PDB:AAA30804.1; PTD:1453809
Reference: N. Hernandez with
Biochem Biophys Res Commun. 191, 861-878, 1993
Abstract: Pituitary follicular cells secrete a novel, heparin-binding growth factor specific

A. Retention number
A. Accession: A14255
A. Molecular type: Protein
A. Residues: 27-31 - PPK
C. Keywords: alternative splicing; glycoprotein; SiO_2 -
F125/dominant; signal sequence; status predicted
F.17-1964; 1-4; 25-30; carboxylate (Asn) (covalently) status predicted
F.100/binding site; carboxylate (Asn)

QUERY MATCH
 BEST LOCAL SIMILARITY 16.74; SCORE 175.5; DB 2; LENGTH 190;
 MATCHES 40; CONSERVED 100; P-VAL 5.5e-04; P-IDENT 19; CAPS
 MISMATCHES 61; INDELS 19

[illegible]

RESULT 5
sheep
575956
ovine vascular endothelial growth factor - sheep (domestic sheep)
C:Species: Ovis orientalis aries; Ovis aries aries
#text_change 05-Nov 1996
C:Date: 13-Jan-1996
#sequence_revision 01
C:Accession: S57956
P:Pedmer, D.A.; Dai, Y.; Li, J.; Jones, S.C.; Moot, R.M.
submitted to the EMBL data library, July 1995
A:Reference number: S57956
A:Accession: S57956
A:Status: preliminary
A:Molecule type: mRNA
A:Residues: 1-146 CPTS
A:Cross-references: EMBL: X89506; NID: d889350; PIDD: CAAG1677.1; PIDD: d889451

| | | | | |
|-----------------------|-------|-------------|-------|--------------|
| Query Match | 16.5% | Score 174.5 | 108.2 | Length 140 |
| Best Local Similarity | 29.0% | Pred. No. 6 | 4e-04 | |
| Matches | 40 | Mismatches | 61 | Indels 19 |
| | | | | Gaps |
| | | | | Conservative |

[illegible]

growth factor-1 precursor - mouse

vascular endothelial growth factor
 C:Species: Mus musculus (house mouse)
 C:Date: 03-Feb-1994 #sequence accession
 C:Accession: M44881: A43511, A61029
 R:Reier, G.; Albrecht, U.; Steiert, S.; Kisa, W.
 Development 114, 523-532, 1992
 A:Title: Expression of vascular endothelial growth factor during embryonic and neonatal
 A:Reference number: A44881; MIMD:92274860
 A:Accession: M44881
 A:Molecule type: mRNA
 A:Restriction: 1-190 +RPE
 A:Cross-references: GI:34083; MID:q249658; PIRN:AMB2253.1; PID:q249659
 A:Experimental source: embryo
 A:Note: sequence extracted from NCBI database (NCBI:107622, NCBI:107623)
 R:Claffey, K.P.; Wilkison, W.O.; Spiegelman, B.M.
 J. Biol. Chem. 267, 16117-16122, 1992
 A:Title: Vascular endothelial growth factor: Regulation by cell differentiation and growth

A: Reference number: A4351; *mol. wt.* 22000
A: Accession: A4351
A: molecule type: mRNA
A: positions: 114-190 cDNA
A: cross-references: GH:M5200, RIKEN:AAA0947.1; F110422251
A: cross-references: GH:M5200, RIKEN:AAA0947.1; NC141110675
A: MOCL sequence extracted from NCI backbone (NC14110665, NC141110675)
A: MOCL: sequence extracted from NCI backbone (NC14110665, NC141110675)
A: Residual: R. A.: Meyvess, J. F.; Henzel, W. J.; Ferrara, N.; Folkman, J.
Growth Factors 4, 55-57, 1990
A: Tissue: Conditioned medium from mouse sarcoma 180 cells containing vascular endothelial
A: Title: Conditioned medium; MIM: 5197543

| | | | | |
|--|-------|--------------------|--------|-------------|
| A: RefGene: human | | | | |
| A: Accession: A61029 | | | | |
| A: Molecule type: protein | | | | |
| A: Residues: 27-48 (POS) | | | | |
| C: Keywords: alternative splicing; angiogenesis; direct duplicate bond; glycoprotein | | | | |
| Query Match | 16.5% | Score 173.5; | 118.2; | Length 190; |
| Best Local Similarity | 29.1% | Prod. No. 8.5e-09; | | |
| Matches | 39; | Mismatches | 57; | Gaps |
| | | | | 4; |
| | | | | |

us-09-534-376a-8_copy_32_227.rpr

Wed Dec 26 12:34:11 2001

A:Title: Homologs of vascular endothelial growth factor are encoded by the poxvirus orf
 A:Reference number: A49530; M010:94076465
 A:Accession: NZ
 A:Status: preliminary
 A:Molecule type: RNA
 A:Residues: 144
 A:Cross-references: GB:S67522; NID:9456900; PDB:AAW2423;1; PDB:4J56702
 A:Notes: sequence extracted from NCI backbone (NCBI:141422, NCBI:141422)
 A:Notes: sequence extracted from NCI backbone (NCBI:141422, NCBI:141422)

Query Match 15.28; Score 160; DB 2; Length 148;
 Best local similarity 42.78; Pred. No. 1; Le-07;
 Matches 15; Conservative 15; Mismatches 43; Indels 10; Gaps 2;

DB 35 NIMMELTKSGCKRDIYVIGETPESTIMQYVIRCVTFPSSTCGMDQICAVETR 94
 144 YLSKIFELTYPLSGCKR-----VTSFANHTSGCKMSK 183
 95 NITVIVSVTGSSSGISGIVSTNLSRISTEHTKQICR 135

RESULT 11
 B49530
 vascular endothelial growth factor homolog A2R, 14-7K - orf virus
 C:Species: orf virus
 C:Date: 07-Apr-1994 #sequence-revision 18-Nov-1994 #text-change 08-Oct-1999
 C:Accession: B49530
 C:Title: J. Fraser, K.M. Fleming, S.B. Mace, A.A. Patinson, A.J.
 J. Viroi. 68, 84-92, 1994
 A:Title: Homologs of vascular endothelial growth factor are encoded by the poxvirus orf
 A:Reference number: A49530; M010:94076465
 A:Accession: NZ
 A:Status: preliminary
 A:Molecule type: DNA
 A:Residues: 144
 A:Cross-references: GB:S67520; NID:9450897; PDB:AAW2220;1; PDB:4J56894
 A:Notes: sequence extracted from NCI backbone (NCBI:141420, NCBI:141425)
 A:Notes: sequence extracted from NCI backbone (NCBI:141420, NCBI:141425)

Query Match 15.18; Score 159.5; DB 2; Length 133;
 Best local similarity 33.38; Pred. No. 1; Le-07;
 Matches 32; Conservative 17; Mismatches 38; Indels 9; Gaps 2;

DB 85 FELKSTDNEMKRTQMPREVCIDYGEFGVATNFFKPCVSVYRCGCCNSEGLCKN 144
 28 SEVLKSG-----SECKPRPIVPPSEHPELISCKRFPVATLRCQDCINLELTP 60
 145 TSTYLSKIFELTYPLSGCKR-----VTSFANHTSGCKMSK 183
 81 LEVNVATMELIGASGSGSNOMQ--RLSFVERKKDCD 114

RESULT 12
 A41246
 placental growth factor precursor - human
 C:Species: Homo sapiens (man)
 C:Date: 19-Jun-1992 #sequence-revision 19-Jun-1992 #text-change 05-Nov-1994
 C:Accession: A41246
 C:Title: Isolation of a human placenta cDNA coding for a protein related to the vascular
 growth factor precursor, VEGF, by V. Vlodavets, G. D'Amico, M. G.
 R. Vlodavets, A. Vlodavets, V. Vlodavets, V. Vlodavets, M. G.
 A:Reference number: A41246; M010:92021031
 A:Accession: A41246
 A:Status: preliminary
 A:Molecule type: mRNA
 A:Residues: 149
 A:Cross-references: GB:X54930; NID:935521; PDB:1A4930;1; PDB:4J5522
 A:Notes: sequence extracted from NCI backbone (NCBI:141420, NCBI:141425)

A:Gene: GDB:14676; OMIM:601121
 A:Reference number: GDB:14676; OMIM:601121
 A:Map position: 14q24-14q31

Query Match 14.38; Score 151; DB 2; Length 149;
 Best local similarity 33.08; Pred. No. 7; Le-07;
 Matches 29; Conservative 14; Mismatches 39; Indels 6; Gaps 2;

DB 95 WPKTCHERFVPLDYGKEFGVATNFFKPCVSVYRCGCCNSEGLCKN 154
 47 WKSRYKAEKRLDVSSEPSVYRHMFSKCVSLRIGCGDDEMLHCVETANVIMQ 106
 155 FELTYPLSGCKR-----VTSFANHTSGCKMSK 183
 107 LKT-----RSGRIRSVETLFSQHVRCQ 130

RESULT 13
 J46679
 vascular endothelial growth factor-related factor 167 precursor - mouse
 R:Alternate names: VRF 167 protein
 C:Species: Mus musculus (house mouse)
 C:Date: 10-May-1996 #sequence-revision 19-Jun-1996 #text-change 05-Nov-1999
 C:Accession: J46679
 C:Title: S. Jager, J. Grimsdottir, S. Sillins, G. Nordenskiöld, M. Webster, G.
 P. Brown, Biophys. Res. Commun. 220, 922-928, 1996
 A:Reference number: J46679; M010:96183052
 A:Accession: J46679
 A:Molecule type: mRNA
 A:Residues: 168
 A:Cross-references: GB:043837; NID:9414435; PDB:AAW2553;1; PDB:4J14435
 A:Notes: This factor is a mitogen, that is selective for endothelial cells, and bel
 ar endothelial growth factors 167 and VEGF 186.
 A:Gene: vrf
 A:Map position: 19
 A:Title: signal sequence #status predicted, S16
 F.1.21/Domain: signal sequence #status predicted, S16
 F.1.21/Domain: signal sequence #status predicted, S16

Query Match 14.18; Score 148.5; DB 2; Length 188;
 Best local similarity 31.38; Pred. No. 1; Le-06;
 Matches 36; Conservative 19; Mismatches 55; Indels 5; Gaps 3;

DB 70 SKTEET-KFAAHVNEPLKSTDNEMKRTQMPREVCIDYGEFGVATNFFKPCVSV 128
 17 ARQAPVSPDPSRQKRVVPMIVYARAI-CQREVYVLSMLGMGVKGLVPSCTIV 75
 129 YPQVQVNSKGLCKMTSTSLSTLTFEIVPLSGCKR-----VTSFANHTSGCKMSK 183
 76 GPGCGCCPDGGLCVTGOHVRMQLIMIVPSSQJGF--MSLEFHSQVETVRPK 127

RESULT 14
 J46679
 vascular endothelial growth factor-related factor 186 precursor - mouse
 R:Alternate names: VRF 186 protein, VEGF 186
 C:Species: Mus musculus (house mouse)
 C:Date: 10-May-1996 #sequence-revision 19-Jun-1996 #text-change 05-Nov-1999
 C:Accession: J46679
 C:Title: S. Jager, J. Grimsdottir, S. Sillins, G. Nordenskiöld, M. Webster, G.
 P. Brown, Biophys. Res. Commun. 220, 922-928, 1996
 A:Reference number: J46679; M010:96183052
 A:Accession: J46679
 A:Molecule type: mRNA
 A:Residues: 187
 A:Cross-references: GB:043836; NID:94703480; PDB:AAW2523;1; PDB:4J14434
 A:Notes: This factor is a mitogen, that is selective for endothelial cells, and bel
 ar endothelial growth factors 167 and 186.

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Accession: 041

Wed Dec 26 12:34:11 2001

us-09-534-376a-8_copy_32_227.rsp

GenBank version 4.5
Copyright (c) 1994 - 2000 CompuLink Ltd.

VM Protein - protein search, using SW model
December 26, 2001, 11:44:01 : Search time 40.89 seconds
(without alignments)
175.747 Million cell updates/sec

Run on:

US-09-534-376a-8_Copy_32_227
1053
1 PEGCULMIDPEPDAAGATAY.....SCKMKNIDYRCVSHLPP 196
Sequence:

Scoring table:
Gapop 10.0, Gapext 0.5

Searched: 100059 seqs, 36664827 residues

Total number of hits satisfying chosen parameters: 100059

Minimum hit seq length: 0
Maximum hit seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database: SwissProt_39.1

Prod. No. is the number of results predicted by chance to have a score greater than or equal to the score being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | Query Match | Length | ID | Description |
|------------|-------|-------------|--------|------------|--------------------|
| 1 | 105.3 | 100.0 | 419 | VEGF_HUMAN | P49767 homo sapien |
| 2 | 98.1 | 88.4 | 415 | VEGF_MOUSE | P59753 mus muscula |
| 3 | 95.5 | 88.5 | 415 | VEGF_HUMAN | P15692 homo sapien |
| 4 | 94.5 | 17.9 | 190 | VEGF_PIG | P43151 sus scrofa |
| 5 | 93.5 | 16.7 | 190 | VEGF_BOVIN | P15691 bos taurus |
| 6 | 92.5 | 16.5 | 146 | VEGF_SHEEP | P56042 ovis aries |
| 7 | 92.5 | 16.4 | 164 | VEGF_CAVO | O06031 mus musculu |
| 8 | 92.5 | 16.4 | 164 | VEGF_CAVO | P16612 cavia porce |
| 9 | 92.5 | 16.4 | 164 | VEGF_CAVO | P52584 ori vitus (|
| 10 | 92.5 | 16.4 | 164 | VEGF_CAVO | P52584 ori vitus (|
| 11 | 92.5 | 16.4 | 164 | VEGF_CAVO | P52584 ori vitus (|
| 12 | 92.5 | 16.4 | 164 | VEGF_CAVO | P52584 ori vitus (|
| 13 | 92.5 | 16.4 | 164 | VEGF_CAVO | P52584 ori vitus (|
| 14 | 92.5 | 16.4 | 164 | VEGF_CAVO | P52584 ori vitus (|
| 15 | 92.5 | 16.4 | 164 | VEGF_CAVO | P52584 ori vitus (|
| 16 | 92.5 | 16.4 | 164 | VEGF_CAVO | P52584 ori vitus (|
| 17 | 92.5 | 16.4 | 164 | VEGF_CAVO | P52584 ori vitus (|
| 18 | 92.5 | 16.4 | 164 | VEGF_CAVO | P52584 ori vitus (|
| 19 | 92.5 | 16.4 | 164 | VEGF_CAVO | P52584 ori vitus (|
| 20 | 92.5 | 16.4 | 164 | VEGF_CAVO | P52584 ori vitus (|
| 21 | 92.5 | 16.4 | 164 | VEGF_CAVO | P52584 ori vitus (|
| 22 | 92.5 | 16.4 | 164 | VEGF_CAVO | P52584 ori vitus (|
| 23 | 92.5 | 16.4 | 164 | VEGF_CAVO | P52584 ori vitus (|
| 24 | 92.5 | 16.4 | 164 | VEGF_CAVO | P52584 ori vitus (|
| 25 | 92.5 | 16.4 | 164 | VEGF_CAVO | P52584 ori vitus (|
| 26 | 92.5 | 16.4 | 164 | VEGF_CAVO | P52584 ori vitus (|
| 27 | 92.5 | 16.4 | 164 | VEGF_CAVO | P52584 ori vitus (|
| 28 | 92.5 | 16.4 | 164 | VEGF_CAVO | P52584 ori vitus (|
| 29 | 92.5 | 16.4 | 164 | VEGF_CAVO | P52584 ori vitus (|
| 30 | 92.5 | 16.4 | 164 | VEGF_CAVO | P52584 ori vitus (|
| 31 | 92.5 | 16.4 | 164 | VEGF_CAVO | P52584 ori vitus (|
| 32 | 92.5 | 16.4 | 164 | VEGF_CAVO | P52584 ori vitus (|
| 33 | 92.5 | 16.4 | 164 | VEGF_CAVO | P52584 ori vitus (|

| Result ID | Score | Query Match | Length | ID | Description |
|-----------|-------|-------------|--------|------------|--------------------|
| 34 | 84.5 | 8.0 | 118 | GLH2_CYCA | P01221 cyprinus ca |
| 35 | 84.5 | 8.0 | 118 | GLH2_CYCA | P19857 cyprinus ca |
| 36 | 83.5 | 7.9 | 120 | GLH1_MELGA | P47035 m glycyprot |
| 37 | 83.5 | 7.9 | 120 | GLH1_MELGA | P47035 m glycyprot |
| 38 | 83.5 | 7.9 | 120 | GLH1_MELGA | P47035 m glycyprot |
| 39 | 80.5 | 7.6 | 120 | GLH1_MELGA | P47035 m glycyprot |
| 40 | 78.5 | 7.5 | 120 | GLH1_MELGA | P47035 m glycyprot |
| 41 | 78.5 | 7.5 | 120 | GLH1_MELGA | P47035 m glycyprot |
| 42 | 77.5 | 7.3 | 120 | GLH1_MELGA | P47035 m glycyprot |
| 43 | 77.5 | 7.3 | 120 | GLH1_MELGA | P47035 m glycyprot |
| 44 | 75.5 | 7.1 | 120 | GLH1_MELGA | P47035 m glycyprot |
| 45 | 75.5 | 7.1 | 120 | GLH1_MELGA | P47035 m glycyprot |

ALIGNMENTS

| Result ID | Score | Query Match | Length | ID | Description |
|--|---|-----------------------------------|--------|------------|-------------|
| 1 | 105.3 | 100.0 | 419 | VEGF_HUMAN | P49767 |
| AC | 01-OCT-1996 | (Rel. 34, Created) | | | |
| DT | 01-OCT-1996 | (Rel. 34, Last sequence update) | | | |
| DT | 20-AUG-2001 | (Rel. 40, Last annotation update) | | | |
| DE | VASCULAR ENDOTHELIAL GROWTH FACTOR C PRECURSOR (VEGF-C) (VASCULAR | | | | |
| DE | ENDOTHELIAL GROWTH FACTOR RELATED PROTEIN) (VRP) (FLT4 LIGAND) (FLT4- | | | | |
| DE | 1). | | | | |
| DE | VEGFC. | | | | |
| OS | Homo sapiens (Human). | | | | |
| OC | Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; | | | | |
| OC | Mammalia; Eutheria; Primates; Catarrhini; Hominoidea; Homo. | | | | |
| CC | NCBI_TaxID=9606; | | | | |
| CC | 11) | | | | |
| RP | SEQUENCE FROM N.A. AND SEQUENCE OF 103 120. | | | | |
| RP | MEDLINE-6178224; PubMed-8617204; | | | | |
| RX | Joukov V., Pajusola K., Kaipainen A., Chillov D., Laitinen J., Kulk R., | | | | |
| RA | Saksela O., Kaipainen N., Allitalo K.; | | | | |
| RT | "A novel vascular endothelial growth factor, VEGF-C, is a ligand for | | | | |
| RT | the Flt4 (VEGFR-3) and KDR (VEGFR-2) receptor tyrosine kinases." | | | | |
| EMBO J. | 15:290-298(1996). | | | | |
| RL | 12) | | | | |
| RP | ERRATUM. | | | | |
| RP | MEDLINE-9620194; PubMed-8612600; | | | | |
| RX | Joukov V., Pajusola K., Kaipainen A., Chillov D., Laitinen J., Kulk R., | | | | |
| RA | Saksela O., Kaipainen N., Allitalo K.; | | | | |
| EMBO J. | 15:1751-1751(1996). | | | | |
| RL | 13) | | | | |
| RP | SEQUENCE FROM N.A. | | | | |
| RP | MEDLINE-96412526; PubMed-8700872; | | | | |
| RX | Lee J., Gray A., Yuan J., Jacob S.M., Avraham H., Wood W.L.; | | | | |
| RT | "vascular endothelial growth factor-related protein: a ligand and | | | | |
| RT | specific activator of the tyrosine kinase receptor Flt4." | | | | |
| Proc. Natl. Acad. Sci. U.S.A. | 93:1988-1992(1996). | | | | |
| RL | 14) | | | | |
| RP | SEQUENCE FROM N.A. | | | | |
| RP | Flt4 L., Morris J.C., Fowler P.S., Long A.J., Greco R., | | | | |
| RA | Burgess P., Giannelli J., Charlela A., Hennessy D., Kovacic S., | | | | |
| RA | Fitzgerald M., Scallietto H., Welch N., Nelson S., Finerty H., | | | | |
| RA | Zollner R., Wang J., Nickbarg E., Gassaway R., Turner K., | | | | |
| Wood C.R.; | | | | | |
| Submitted (1996) to the EMBL/GenBank/DDBJ databases. | | | | | |
| 1. FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND ENDOTHELIAL | | | | | |
| CELL GROWTH. | | | | | |
| 1. SUBUNIT: HOMOOLIGOMER; DISULFIDE-LINKED. | | | | | |
| 1. PTM: PROBABLY PROTEOLYTICALLY PROCESSED IN THE C-TERMINUS. | | | | | |
| 1. SIMILARITY: BELONGS TO THE VEGF/VEGF FAMILY OF GROWTH FACTORS. | | | | | |
| 1. This SWISS-PROT entry is copyright. It is produced through a collaboration | | | | | |
| between the Swiss Institute of Bioinformatics and the EMBL outstation - | | | | | |
| the European Bioinformatics Institute. There are no restrictions on its | | | | | |
| use by non-profit institutions as long as its content is in no way | | | | | |
| modified and this statement is not removed. Usage by and for commercial | | | | | |
| entities requires a license agreement (See http://www.ebi.ac.uk/infocentre/ | | | | | |

VEGF_HUMAN STANDARD: 215 AA
 ID: VEGF_HUMAN
 AC: 01-APR-1990 (Ref. 14, Greatad)
 DT: 01-APR-1990 (Ref. 14, Last sequence update)
 DT: 20-AUG-2001 (Ref. 40, Last annotation update)
 DE: VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR (VEGF) (VASCULAR
 DE: PERMEABILITY FACTOR) (VPP).
 CN: VEGF OR VEGFA.
 OS: Homo sapiens (Human).
 OG: Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
 OG: Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
 OG: VEGF_L18K10-9505;
 RN: 111
 RP: SEQUENCE FROM N.A.
 RA: MEDLINE:90069608; PubMed-2479986;
 RA: Leong D.W., Cachelins G., Kuang W.-J., Goeddel D.V., Ferrara N.;
 RA: "Vascular endothelial growth factor is a secreted angiogenic
 RA: mitogen."
 RA: Science 246:1306-1309(1989).
 RL: 121
 RP: SEQUENCE FROM N.A. AND PARTIAL SEQUENCE.
 RA: MEDLINE:90069609; PubMed-2479987;
 RA: Kneek J., Hauser S.D., Kiveli G., Sanzo K., Wietes T., Feder J.;
 RA: "Vascular permeability factor, an endothelial cell mitogen related to
 RA: proteinase."
 RA: Science 246:1309-1312(1989).
 RL: 141
 RP: SEQUENCE FROM N.A.
 RA: MEDLINE:91269372; PubMed-1711045;
 RA: Fisher J., Mitchell R., Hartman T., Silva M., Gospodarowicz P.,
 RA: Fiddes J., Abraham J.A.;
 RA: "The human gene for vascular endothelial growth factor. Multiple
 RA: protein forms are encoded through alternative exon splicing."
 RA: J. Biol. Chem. 266:11947-11954(1991).
 RL: 41
 RP: SEQUENCE FROM N.A.
 RA: MEDLINE:92241879; PubMed-1567395;
 RA: Weinhold K., Marone D., Weich H.A.;
 RA: "AIDS-associated Kaposi's sarcoma cells in culture express vascular
 RA: endothelial growth factor."
 RA: J. Biol. Chem. 264:20017-20024(1989).
 RL: 171
 RP: SEQUENCE OF 27-41.
 RA: MEDLINE:94145940; PubMed-7678805;
 RA: Fischel H.L., Jaeger B., Schellmann C., Weinhold K., Wiltting J.,
 RA: Koehn G., Marone D., Weich H.A.;
 RA: "Synthesis and assembly of functionally active human vascular
 RA: endothelial growth factor homodimers in insect cells."
 RA: Eur. J. Biochem. 211:19-26(1993).
 RL: 171
 RP: X-RAY CRYSTALLOGRAPHY (2.5 ANGSTROMS) OF 34-135.
 RA: MEDLINE:97352774; PubMed-9207067;
 RA: Muller Y.A., Li B., Christinger H.W., Weiss J.A., Cunningham B.C.;
 RA: "Vascular endothelial growth factor: crystal structure and functional
 RA: mapping of the kinase domain receptor binding site."
 RA: Proc. Natl. Acad. Sci. U.S.A. 94:7192-7197(1997).
 RL: 181
 RP: X-RAY CRYSTALLOGRAPHY (1.93 ANGSTROMS) OF 34-135.
 RA: MEDLINE:98054555; PubMed-9431807;
 RA: Muller Y.A., Christinger H.W., Keyl B.A., de Vos A.M.;
 RA: "The crystal structure of vascular endothelial growth factor (VEGF)
 RA: refined to 1.93-A resolution: multiple copy flexibility and receptor
 RA: binding."

RL: Structure 5:1325-1338(1997).
 RL: 191
 RP: X-RAY CRYSTALLOGRAPHY (1.9 ANGSTROMS) OF 39-134.
 RA: MEDLINE:99119204; PubMed-9922142;
 RA: Wiesmann C., Christinger H.W., Cochran A.G., Cunningham B.C.,
 RA: Fairbrother W.J., Keenan C.J., Meng G., de Vos A.M.;
 RA: "Crystal structure of the complex between VEGF and a receptor-blockin
 RA: peptide."
 RA: Biochemistry 37:17765-17772(1998).
 RL: 1101
 RP: STRUCTURE BY NMR OF 34-135.
 RA: MEDLINE:97477915; PubMed-9336848;
 RA: Fairbrother W.J., Champagne M.A., Christinger H.W., Keyl B.A.,
 RA: Starovasnik M.A.;
 RA: "1H, 13C, and 15N backbone assignment and secondary structure of the
 RA: receptor-binding domain of vascular endothelial growth factor."
 RA: Protein Sci. 6:2250-2260(1997).
 RL: 1111
 RP: STRUCTURE BY NMR OF 137-215.
 RA: MEDLINE:98298440; PubMed-9644701;
 RA: Fairbrother W.J., Champagne M.A., Christinger H.W., Keyl B.A.,
 RA: Starovasnik M.A.;
 RA: "Solution structure of the heparin-binding domain of vascular
 RA: endothelial growth factor."
 RA: Structure 6:643-648(1998).
 RL: 11
 RP: FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND ENDOTHELIAL
 CC: CELL GROWTH, INDUCES ENDOTHELIAL PROLIFERATION AND VASCULAR
 CC: PERMEABILITY.
 CC: -1- SUBUNIT: MONOMER; DISULFIDE-LINKED.
 CC: -1- SUBUNIT: MONOMER; SECRETED BUT REMAINS ASSOCIATED TO CELLS OR
 CC: TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN (BY
 CC: SIMILARITY).
 CC: -1- ALTERNATIVE PRODUCTS: FOUR FORMS OF VEGF ARE PRODUCED BY
 CC: ALTERNATIVE SPLICING OF THE SAME GENE (VEGF-121, VEGF-165,
 CC: VEGF-189 AND VEGF-215).
 CC: -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
 CC: -1- THIS SWISS-PROT entry is copyright. It is produced through a collaboration
 CC: between the Swiss Institute of Bioinformatics and the EMBL outstation.
 CC: The European Bioinformatics Institute. There are no restrictions on its
 CC: use by non-profit institutions as long as its content is in no way
 CC: modified and this statement is not removed, usage by and for commercial
 CC: entities requires a license agreement (see [http://www.isb-sib.ch/announcements/](http://www.isb-sib.ch/announcements)
 CC: or send an email to license@isb-sib.ch).
 CC: -----
 DR: EMBL: M29277; AAA35789.1; -;
 DR: EMBL: M27281; AAA36807.1; -;
 DR: EMBL: M63978; AAA36804.1; -;
 DR: EMBL: M63971; AAA36804.1; JOINED.
 DR: EMBL: M63972; AAA36804.1; JOINED.
 DR: EMBL: M63974; AAA36804.1; JOINED.
 DR: EMBL: M63975; AAA36804.1; JOINED.
 DR: EMBL: M63976; AAA36804.1; JOINED.
 DR: EMBL: M63977; AAA36804.1; JOINED.
 DR: EMBL: M62568; CAA4447.1; -;
 DR: EMBL: X62568; A34492.
 DR: PIR: A44922; A34492.
 DR: PIR: A40079; A40079.
 DR: PIR: A40080; A40080.
 DR: PIR: A40454; A40454.
 DR: PIR: B40454; B40454.
 DR: PIR: C40454; C40454.
 DR: PIR: J01463; J01463.
 DR: PIR: J01464; J01464.
 DR: PIR: S17348; S17348.
 DR: PDB: 1VCH; 08-APR-98.
 DR: PDB: 2VCH; 08-APR-98.
 DR: PDB: 1VPE; 08-APR-98.
 DR: PDB: 2VPE; 29-JUL-98.
 DR: PDB: 1VPP; 23-FEB-99.
 DR: MIM: 192240;
 DR: InterPro: IPR000072; Pfam:
 DR: Pfam: PF00341; ProSe: 1.


```

OR send an email to license@sb-sib.ch)
CC EMBL; M32167; AAA41211.1; -.
DR PIR; A35987; A35987.
HSSP; P15692; 2VCH.
InterPro; IPR000672; pOGF.
DR Pfam; PF00341; pOGF_1.
DR ProDom; PD001629; pOGF_1.
DR SMART; SM00141; pOGF_1.
DR PROSITE; PS00249; pOGF_1.
DR PROSITE; PS02278; pOGF_2.
KW Mitogen; growth factor; glycoprotein; signal.
FT SIGNAL 1
FT CHAIN 27..190 VASODILAR ENDOTHELIAL GROWTH FACTOR
FT DISULFID 51..94 BY SIMILARITY.
FT DISULFID 82..127 BY SIMILARITY.
FT DISULFID 86..129 INTERCHAIN (BY SIMILARITY).
FT DISULFID 76..76 INTERCHAIN (BY SIMILARITY).
FT DISULFID 85..85 N-LINKED (GLYC...).
FT CARBOHYD 100..100
SQ SEQUENCE 190 AA; 22396 MW; 58937401041F377 CRC64;

Query Match 16.4% Score 179.5; DB 1; Length 190;
Best Local Similarity 33.1%; Pred. No. 9.8e-10;
Matches 42; Conservative 22; Mismatches 50; Indels 13; Gaps 5;

QY 61 HNECANINSPREELIKFAAAYNTLEKSTGNSPKRYGMREVCTGVGRPCAVANTP 120
DB 19 HHAKMSQAAPTEEGDK--AH--EVAKEFD-VQSSYCPRLFLINDIPQYDELEYI 71
QY 121 KRPCCSVYRCGGCGNSGEOCMNSTYSKITLFETVPLSO--GPKVITSPANHSFC 178
DB 72 KRPCCVLMKAGCQNDALAEVPTSESNVTMGIIMRIKPHOSHTIG--EMSLQHSGK 127
QY 179 RCMRKLD 185
DB 128 EGPEKKD 134

RESULT 10
VRGH_ORFN2 STANDARD; PRI: 133 AA.
ID VRGH_ORFN2 AC F52584;
AC 01-OCT-1996 (rel. 34, Created)
DJ 01-OCT-1996 (Rel. 34, last sequence update)
DT 20-AUG-2001 (Rel. 40, last annotation update)
DE VASCULAR ENDOTHELIAL GROWTH FACTOR HOMOLOG PRECURSOR.
EN A2P
CU A2P virus (Strain M-2) (CV R2.2);
US A2P viruses; dsDNA viruses, no RNA stage; poxviridae; Chordapoxvirinae;
OC Parapoxvirus.
OX NCBI_Taxid=10259;
RN [1]
RP SEQUENCE FROM N A
KA MEDLINE 9407465; PubMed 8254780;
EA Lytle J.J., Fraser K.M., Fleming S.B., Mercer A.A., Robinson A.J.;
RT "Homologs of viral growth factor are encoded by the poxvirus orf virus.";
RL J. Virol. 68:84-92(1994).
CC -1 FUNCTION: INDUCES ENDOTHELIAL PROLIFERATION.
CC -1 SUBUNIT: HOMODIMER; DISULFIDE-LINKED (BY SIMILARITY).
CC -1 SIMILARITY: BELONGS TO THE pOGF/pOEF FAMILY OF GROWTH FACTORS.
-----
CC This SWISS-PROT entry is copyright . It is produced through a collaboration
CC between the Swiss Institute of Bioinformatics and the EMBL outstation at
CC the European Bioinformatics Institute. There are no restrictions on its
CC use by non-profit institutions as long as its content is in no way
CC modified and this statement is not removed, usage by and for commercial
CC entities requires a license agreement (see http://www.isb-sib.ch/announcements
CC or send an email to license@sib-sib.ch).
EMBL; S07520; AMR0920.2; -.

```




114101
DISTRICT
SCHOOL
1054
US-09-544-376A-8_COPY-32-227
STROMERLEVINOVHST1PP 146

| | | | |
|-----------------------------------|--------|-----------------|----------|
| Searched: | 473505 | seqs, 146272329 | residues |
| ... satisfying chosen parameters: | 473505 | | |

| | |
|------------------|--------------------|
| post-processing: | Minimum Match of |
| | Maximum Match 100% |
| listing first | 45 summaries |

```

dataframe :
  1: SPERMATID : *
  2: SP_ARCHA : *
  3: SP_BACTERIA : *
  4: SP_FUNGI : *
  5: SP_HUMAN : *
  6: SP_INVERTEBRATE : *
  7: SP_MAMMAL : *
  8: SP_MUC : *
  9: SP_ORNITHO : *
  10: SP_PLANT : *
  11: SP_RODENT : *
  12: SP_VIRUS : *
  13: SP_VETEPRATE : *
  14: SP_UNCLASSIFIED : *

```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARY

| Result No. | Score | * Query Match | Length | DB | ID | Description |
|------------|-------|---------------|--------|----|--------|---------------------|
| 1 | 972 | 92.3 | 420 | 6 | 09XS50 | 09XS50 bos taurus |
| 2 | 908 | 86.2 | 418 | 13 | 057352 | 057352 colurnix co |
| 3 | 489 | 46.4 | 358 | 11 | p97946 | p97946 mus musculus |
| 4 | 485 | 46.1 | 326 | 11 | 015251 | 015251 rattus norv |
| 5 | 478 | 45.4 | 354 | 4 | 043915 | 043915 homo sapien |
| 6 | 477 | 45.8 | 326 | 11 | 015757 | 015757 rattus norv |
| 7 | 195 | 18.5 | 171 | 4 | 09H1M8 | 09H1M8 homo sapien |
| 8 | 155 | 18.5 | 209 | 4 | 060720 | 060720 homo sapien |
| 9 | 195 | 18.5 | 209 | 4 | 0601W9 | 0601W9 homo sapien |
| 10 | 195 | 18.5 | 254 | 4 | 016889 | 016889 homo sapien |
| 11 | 192 | 18.2 | 174 | 4 | 09H158 | 09H158 homo sapien |
| 12 | 192 | 18.2 | 174 | 4 | 090123 | 090123 homo sapien |
| 13 | 191.5 | 18.2 | 214 | 6 | 09MCV3 | 09MCV3 canis fami |
| 14 | 190.5 | 18.1 | 190 | 6 | 09GKFO | 09GKFO equus caball |
| 15 | 190.5 | 18.1 | 209 | 6 | 09XSP4 | 09XSP4 canis fami |
| 16 | 190.5 | 18.1 | 214 | 6 | 09XSP5 | 09XSP5 canis fami |
| 17 | 187.5 | 17.8 | 190 | 6 | 05XST3 | 05XST3 canis fami |
| 18 | 186.6 | 17.7 | 190 | 6 | 090152 | 090152 sus scrofa |
| 19 | 183 | 17.4 | 126 | 6 | 09HDD7 | 09HDD7 macaca mula |

| | | | | | |
|----|-------|------|-----|----|--------------------|
| 20 | 182 | 17.3 | 191 | 4 | 075875 |
| 21 | 181.5 | 17.2 | 190 | 11 | 090X39 |
| 22 | 179.5 | 17.0 | 148 | 11 | 042571 xenopus lac |
| 23 | 179.5 | 17.0 | 194 | 13 | 042572 |
| 24 | 177 | 16.8 | 124 | 6 | 090K00 |
| 25 | 173.5 | 16.5 | 118 | 0 | 090Z61 |
| 26 | 173.5 | 16.5 | 190 | 6 | 077643 |
| 27 | 172.5 | 16.4 | 170 | 11 | 091K87 |
| 28 | 172.5 | 16.4 | 214 | 11 | 090X07 |
| 29 | 170.5 | 16.2 | 146 | 11 | 090X06 |
| 30 | 165.5 | 16.2 | 140 | 11 | 090E81 |
| 31 | 165 | 15.7 | 144 | 11 | 073822 |
| 32 | 165 | 15.7 | 148 | 13 | 073882 |
| 33 | 161 | 15.3 | 142 | 11 | 090F66 |
| 34 | 161 | 15.2 | 142 | 12 | 090Y64 |
| 35 | 151 | 14.3 | 149 | 4 | 090F88 |
| 36 | 151 | 14.3 | 170 | 4 | 090V78 |
| 37 | 148.5 | 14.1 | 207 | 11 | 044290 |
| 38 | 148 | 14.1 | 149 | 6 | 090X47 |
| 39 | 148 | 14.1 | 150 | 11 | 054861 |
| 40 | 147 | 14.0 | 188 | 6 | 090X49 |
| 41 | 147 | 14.0 | 153 | 6 | 090X49 |
| 42 | 146 | 13.9 | 110 | 11 | 088511 |
| 43 | 145 | 13.8 | 207 | 4 | 016528 |
| 44 | 144 | 13.7 | 158 | 11 | 063434 |
| 45 | 143 | 13.6 | 78 | 6 | 090N152 |

ALIGNMENT

```

RESULT 1
ID 09X550 PRELIMINARY; PRI: 420 AA.
AC 09X550;
DE 01-NOV-1999 (TREMBL) 12, (created)
DE 01-NOV-1999 (TREMBL) 12, (last sequence update)
DE 01-JUN-2001 (TREMBL) 17, (last annotation update)
DE VASCULAR ENDOTHELIAL GROWTH FACTOR C PRECURSOR.
OS Bos taurus (Bovine).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovidae; Bovinae; Bos.
OX NCBI_TaxID=9913;
RN 11
RP SEQUENCE FROM N.A.
RC TISSUE=HEART;
RA Iliu X., Yonekura H., Yamagishi S., Yamamoto Y., Yamamoto H.;
RT "Structure and expression of bovine VEGF family."
RL Submitted (May-1997) to the EMBL/GenBank/DBJ databases.
DR EMBL: AB004275; BAA77087.1; -.
DR HSSP: P15692; 1VP.
DR InterPro: IPR000072; PUGF.
DR Pfam: PF00341; PDGF_1.
DR ProDom: PD01629; PDGF_1.
DR SMART: SM00141; PDGF_1.
DR PROSITE: PS00349; PDGF_1; 1.
DR PROSITE: PS0278; PDGF_2; 1.
DR Signal.
KW Signal.
FT SIGNAL.
FT CHAIN. 21 420 VASCULAR ENDOTHELIAL GROWTH FACTOR C.
SQ SQUINCE 420 AA: 46681 MW: 588664.178 kD REF: C9C64;
Query Match 92-98; score 972; DB 6; Length 420;
Best local Similarity 91-98; Pct. No. 3,60-90;
Matches 179; Conservative 5; Mismatches 12; Indels 0; Gaps 0;
QY 1 FESGDI,SDAEPDPAAGATVAVASKRLIEDLRSSVSSVPLMTVIVPEYWKYKQGLPKRQWQ 60
DQ 111111111111111111111111111111111111111111111111111111111111
DY 35 FESDGGSDI,LEDAQENFAYAKREMEDELRSSVDELMTVIVPEYWKYKQGLPKRQWQ 92
QY 61 MRESEVNI KETPEI LKFAAHYNTILKSLINWPKTQCPKIVCLDWAKFVATITF 120

```


DB SMART: SMOU41; PAGE: 1;
 DB PROSITE: PS00249; PAGE: 1;
 DB PROSITE: PS0278; PAGE: 2; 1;
 SU SEQUENCE: 208 AA; 2400 MB; C177AC591F5C2BHE CXC64;

Query Match: 18.18; Score 140.5; DB 6; Length 208;
 Best Local Similarity: 29.38; Pred. No. 1,9e-11;
 Matches: 45; Conservative: 19; Mismatches: 60; Indels: 25; Gaps: 3;

```

UY 54 LKGGWQHNRDQANLSRTTETIRFAAHNTEELKSLNENPKTCMEPEVCIIVAKKEF 113
      | | | | | | | | | | | | | | | | | | | | | | | | | | | |
UB 18 LHKAKWSQAPMAQGRKPRHVVKFM-----DVGQSYCRDPIETLVDIIOEY 64

UY 114 GVAATNFEPEFVAVFQSGVSEPNQPMSTSYISKTFETIVP-----SQPKPV 168
      | | | | | | | | | | | | | | | | | | | | | | | | | | | |
UB 65 FDELEYIFKPSVILMKSGGNDDEGLECVPTFE-----FNIMQIMRKPRHGGHIG 117

UY 149 IISAHHSQGNMSKILVYRQVHSIIR 195
      | | | | | | | | | | | | | | | | | | | | | | | | | | | |
UB 118 FMSFLGHSKTECPPEKFDVQVEPKSVR 144

```

Search completed: December 26, 2001, 11:43:08
 Job time: 899 sec

•
•
•

| Query Match | 100.0% | Score 2346 | DB 21 | Length 419 |
|-----------------------|---|-------------------|----------|------------|
| Best Local Similarity | 100.0% | Prot. No. 116-172 | | |
| Matches 419 | Conservative 0 | Miscellaneous 0 | Indels 0 | Gaps 0 |
| QY 1 | MLHGFVSAGSLIAAMLLPGREAPAAAAAFESGJLSNAPEDACGATAVASKLDELQ | 60 | | |
| DB 1 | MLHGFVSAGSLIAAMLLPGREAPAAAAAFESGJLSNAPEDACGATAVASKLDELQ | 60 | | |
| QY 61 | KSSVSSVLELMVAVLALWKESEVQLPEKQWQREPRVANI NSKEETIKFAAHVNTETLK | 120 | | |
| DB 61 | KSSVSSVLELMVAVLALWKESEVQLPEKQWQREPRVANI NSKEETIKFAAHVNTETLK | 120 | | |
| QY 121 | SLDNEMERTQCPREPEVLDWKEKEGVATINLELVAVVAVVAVVAVVAVVAVVAVVAVV | 180 | | |
| DB 121 | SLDNEMERTQCPREPEVLDWKEKEGVATINLELVAVVAVVAVVAVVAVVAVVAVVAVV | 180 | | |
| QY 181 | ESKLEPLAVLVSQSGVAVLSPAHNGSGVWSEPIVAVROVHSLIRKSLPAILPGGVQAN | 240 | | |
| DB 181 | ESKLEPLAVLVSQSGVAVLSPAHNGSGVWSEPIVAVROVHSLIRKSLPAILPGGVQAN | 240 | | |
| QY 241 | KCPPIVYMNWNNHICQLAODEPMFSSDAGDSTGCEPHDTCGPKNEIDEEPTQCVQVAGLR | 300 | | |
| DB 241 | KCPPIVYMNWNNHICQLAODEPMFSSDAGDSTGCEPHDTCGPKNEIDEEPTQCVQVAGLR | 300 | | |
| QY 301 | PASCGHREKLHNSQCYCKNKLEPTSCGSAHNEPEENTQCVCKRTCPHNPGLNPKGAC | 360 | | |
| DB 301 | PASCGHREKLHNSQCYCKNKLEPTSCGSAHNEPEENTQCVCKRTCPHNPGLNPKGAC | 360 | | |
| QY 361 | ECPHSPOKCLIKGRKFHHQTCGYRPPCNIRKACHPGCSSEEGKCPVPSWKPKPMS | 419 | | |
| DB 361 | ECPHSPOKCLIKGRKFHHQTCGYRPPCNIRKACHPGCSSEEGKCPVPSWKPKPMS | 419 | | |
| RESULT 7 | | | | |
| AAV70749 | AAV70749 standard; protein: 419 AA. | | | |
| XX AC | AAV70749: | | | |
| XX DD | 17-ADG-2000 (first entry) | | | |
| XX DB | Human prepro-vascular endothelial growth factor C. | | | |
| XX XX | Human: receptor tyrosine kinase; PK: p14; Ins-like tyrosine kinase 4; | | | |
| KW KW | VEGFR-3; vascular endothelial growth factor receptor-3; chromosom 5q35; | | | |
| KW KW | Cytoplastic; tumour imaging; antitumour therapy; treatment; diagnosis; | | | |
| KW KW | neoplastic disease; lymphoma, carcinoma; breast; squamous cell; melanoma; | | | |
| KW KW | sarcoma; malignancy; VEGF-C; vascular endothelial growth factor C. | | | |
| OS XX | Homo sapiens. | | | |
| XX FH | Location/Qualifiers | | | |
| FH FH | 1..31 | | | |
| FH FH | /label= Signal_peptide | | | |
| FH FH | 32..103 | | | |
| FH FH | /label= N-terminal_peptide | | | |
| FH FH | /note= cleavage of this peptide from partially processed | | | |
| FH FH | VEGF-C produces a fully processed mature form of VEGF-C | | | |
| FH FH | of 21-23 kD which has high affinity to VEGFR-2* | | | |
| FH FH | 104..227 | | | |
| FH FH | /label= Mature_VEGF-C | | | |
| FH FH | 228..419 | | | |
| FH FH | /label= C-terminal_peptide | | | |
| FH FH | /note= "Has a pattern of spaced cysteine residues | | | |
| FH FH | reminiscent of a baitant and 3 protein (bait) sequence | | | |
| FH FH | cleavage of signal peptide and the C-terminal | | | |
| FH FH | peptide produces a partially processed form of VEGF-C of | | | |
| FH FH | about 29 kD which has high affinity to p14 (VEGFR-3)* | | | |
| FH FH | 113..213 | | | |
| FH FH | /note= "binds and stimulates VEGF-C receptors; Cys | | | |
| FH FH | at position 156 is essential for VEGFR-2 binding and at | | | |

[illegible]

| | | | | |
|--------|--|--|--|-----|
| 07 | 181 | LSH1 | LEISHMANIAVISCOSUSKINETEIPSPANNINGINMOSQUITOFEEDBACKINFECTIONVIAAA | 246 |
| 08 | | | | |
| 14 | 191 | LSP1 | LYMPHOBLASTICCELLPROLIFERATIONANDCYTOTOXICITYINDUCEDBYSTIMULATEDPOLYMA | 246 |
| 07 | 241 | POLYADENOMATOUSPOLYADENOMASANDTHEIRDIFFERENTIALRESPONSETOCA | 400 | |
| 10 | | | | |
| 10b | 241 | POLYADENOMATOUSPOLYADENOMASANDTHEIRDIFFERENTIALRESPONSETOCA | 400 | |
| 07 | 601 | FACSANALYSISOFBLOODWORKSAMPLINGCAMPILLOSPERMATOPHYTESANDNITROG | 400 | |
| 10b | | | | |
| 10b | 601 | FACSANALYSISOFBLOODWORKSAMPLINGCAMPILLOSPERMATOPHYTESANDNITROG | 400 | |
| 07 | 601 | FACSANALYSISOFBLOODWORKSAMPLINGCAMPILLOSPERMATOPHYTESANDNITROG | 419 | |
| 10b | | | | |
| 10b | 601 | FACSANALYSISOFBLOODWORKSAMPLINGCAMPILLOSPERMATOPHYTESANDNITROG | 419 | |
| RESULT | 11 | AAV4051B | Standard: Protein: AAV | |
| 1D | AAV4051B | Standard: Protein: AAV | | |
| XX | AAV4051B | | | |
| AA | AAV4051B | | | |
| 01 | to New York (first entry) | | | |
| DE | Vascular endothelial growth factor 2 (VEGF-2). | | | |
| XX | Human vascular endothelial growth factor 2; VEGF-2; | | | |
| KW | vascular endothelial cell growth; endothelial cell migration; | | | |
| KW | angiogenesis; blood pressure; blood flow; immune system disorder; | | | |
| KW | immunologic tumor; autoimmune disorder; blood protein disorder; | | | |
| KW | arteria telangiectasia; common variable immunodeficiency; | | | |
| KW | idiopathic syndrome; HIV infection; HIV-HIV infection; | | | |
| KW | hemorrhagic edema; deficiency syndrome; lymphoproliferative | | | |
| KW | plaque-like factor; renal dysfunction; severe combined immunodeficiency; | | | |
| KW | Miskott-Albright disorder; anemia; thrombocytopenia; hemostatic; auto- | | | |
| XX | allergy; asthma; allergic asthma. | | | |
| XX | Homo sapiens. | | | |
| PN | WP0946466 AL. | | | |
| XX | | | | |
| PD | 16 SEP 1999. | | | |
| XX | | | | |
| PE | 10 MAR 1999: 9906-JBS05021. | | | |
| XX | | | | |
| PR | 13 MAR 1998: 9805-0042105. | | | |
| PR | 40 JUN 1998: 9805-0107997. | | | |
| XX | (HUMAN-) HUMAN CHROMOSOME SC1 INC. | | | |
| PA | | | | |
| XX | Rosen CA, Cao L, Hu J: | | | |
| EJ | WPL: 1999-551399/16. | | | |
| 08 | N EMBL: AAZ10523. | | | |
| XX | | | | |
| EJ | New human vascular endothelial growth factor 2, used for treating cog | | | |
| 17 | immune disorders and cancers. | | | |
| XX | | | | |
| XX | claim 12; Fig A-E; 224pp; English. | | | |
| 07 | The present sequence represents a vascular endothelial growth factor 2 | | | |
| 07 | (VEGF-2). The VEGF-2 polypeptides have activities similar to VEGF. The | | | |
| 07 | VEGF-2 polypeptides stimulate the growth of vascular endothelial cells | | | |
| 07 | stimulate endothelial cell migration, stimulate angiogenesis, decrease | | | |
| 07 | cell permeability, and increase blood flow. The polynucleotides and | | | |
| 07 | polypeptides can be used for preventing, treating or ameliorating a | | | |
| 07 | medical condition. The VEGF-2 polypeptides or polynucleotides may be | | | |
| 07 | used in treatment of diseases or disorders of the immune system. By | | | |
| 07 | inhibiting or inhibiting the proliferation of differentially or | | | |
| 07 | modulation (chromatin) of immune cells. The activity of these immu | | | |
| 07 | noglobulin-like receptors may be altered by some factors such as cancer or | | | |

•
•
•

70.86 seconds

419

Scorpio 10.00 22503292 residues

[illegible]

Maximum 100
Minimum 08

Maximum Match 100%
Maximum First 4's summaries

```
*
list = [
    ('patent_5_AA:', * issued_patent_5_AA_COMB pep :*),
    ('publ_6/publita/2/iaa/5A_', COMB pep :*),
    ('publ_6/publita/2/iaa/5B_', COMB pep :*),
    ('publ_6/publita/2/iaa/5C_', COMB pep :*)]

```

2: /com2_6/ptolnacc/2/1ad/bc7US_2PM8_pcp: *

3: /com2_6/ptolnacc/2/1ad/bc7US_2PM8_pcp: *

4: /com2_6/ptolnacc/2/1ad/bc7US_2PM8_pcp: *

5: /com2_6/ptolnacc/2/1ad/bc7US_2PM8_pcp: *

6: /com2_6/ptolnacc/2/1ad/bc7US_2PM8_pcp: *

pred. No. is the number of the score distribution
score greater than or equal to the total score distribution
and is derived by analysis of

SUMMARY

Description

| Posit No. | Score | Match | Length | DB | ID | Sequence 8, Appl |
|--------------|-------|-------|--------|----|-------------------|----------------------|
| 1 | 2336 | 100.0 | 419 | 4 | 05-08-795-430-B | Sequence 8, Appl |
| 2 | 2336 | 100.0 | 419 | 4 | 05-08-999-811-2 | Sequence 2, Appl |
| 3 | 2345 | 99.6 | 419 | 3 | 05-09-042-105-E | Sequence 2, Appl |
| 4 | 2345 | 99.6 | 419 | 3 | 05-09-042-105-E | Sequence 14, Appl |
| 5 | 2426 | 99.6 | 419 | 3 | 05-0856-09001-2 | Sequence 2, Appl |
| 6 | 2426 | 99.6 | 419 | 5 | PC108-795-4-10-33 | Sequence 11, Appl |
| 7 | 2404 | 87.7 | 450 | 4 | 05-08-575-430-33 | Sequence 33, Appl |
| 8 | 1999 | 85.6 | 350 | 4 | 05-08-585-845-33 | Sequence 4, Appl |
| 9 | 1999 | 85.6 | 350 | 4 | 05-08-999-811-4 | Sequence 2, Appl |
| 10 | 1995 | 85.4 | 350 | 2 | 05-08-824-946-2 | Sequence 4, Appl |
| 11 | 1995 | 85.4 | 350 | 2 | 05-09-042-105-E | Sequence 13, Appl |
| 12 | 1995 | 85.4 | 350 | 4 | 05-08-795-430-33 | Sequence 3, Appl |
| 13 | 1995 | 85.4 | 350 | 4 | 05-08-915-795-8 | Sequence 5, Appl |
| 14 | 704.5 | 30.2 | 464 | 4 | 05-08-915-795-8 | Sequence 8, Appl |
| 15 | 704.5 | 30.1 | 321 | 4 | 05-08-915-795-8 | Sequence 9, Appl |
| 16 | 667.5 | 28.6 | 242 | 2 | 05-08-994-811-7 | Sequence 7, Appl |
| 17 | 268.5 | 10.2 | 232 | 2 | 05-08-407-9948-4 | Sequence 4, Appl |
| 18 | 268.5 | 10.2 | 232 | 3 | 05-09-042-105-E | Sequence 10, Appl |
| 19 | 268.5 | 10.2 | 232 | 3 | 05-0856-09001-2 | Sequence 9, Appl |
| 20 | 238 | 10.2 | 241 | 5 | 05-08-824-996-9 | Sequence No. 5240948 |
| 21 | 238 | 10.2 | 242 | 2 | 05-0848-1 | Sequence 9, Appl |
| 22 | 259 | 9.8 | 214 | 6 | 52408-807-9928-4 | Sequence 49, Appl |
| 23 | 259 | 9.7 | 215 | 4 | 05-08-581-3968-9 | Sequence No. 5240846 |
| 24 | 256 | 9.7 | 215 | 6 | 5240848-7 | Sequence 2, Appl |
| 25 | 226 | 9.5 | 151 | 3 | 05-08-567-200A-2 | Sequence 2, Appl |
| 26 | 226 | 9.5 | 151 | 3 | | |
| 27 | 222 | 9.5 | 151 | 3 | | |

[illegible]

AL. JOURNAL

RESULT 1
US-08-795-430-8 Application US/08795430
Sequence 8, 6130071

PATENT NO. 2,900,000
GENERAL INFORMATION: KARL
INVENTOR: Vladimir
SIGNIFICANT: endohelial growth factor and uses thereof

APPLICANT: JOSEPH VASCUCCI
TITLE OF INVENTION: Vascular and Gene Mutations
TITLE OF INVENTION: Protein and Gene Mutations
57
APPLICANT: JOSEPH VASCUCCI
TITLE OF INVENTION: Vascular and Gene Mutations
TITLE OF INVENTION: Protein and Gene Mutations
57
APPLICANT: JOSEPH VASCUCCI
TITLE OF INVENTION: Vascular and Gene Mutations
TITLE OF INVENTION: Protein and Gene Mutations
57

FILE OF SEQUENCES: 07010, Gotslein, Milt
NUMBER OF SEQUENCES: 07010, Gotslein, Milt
CORRESPONDENCE ADDRESS: 07010, Gotslein, Milt
MARSHALL: 07010, Gotslein, Milt

ADDRESSEE: Mrs. J. W. Brown
STREET: 6300 Sears Tower
CITY: Chicago

CITY: Illinois
STATE: United States of America
COUNTRY: 1006402

ZIP: 60609
COMPUTER REATABLE FORM: disk
COMPUTER TYPE: floppy
MEDIUM TYPE: 5 1/4" compatible

IBM PC/XT, Version 1.0, Release #1.0, Patent In Progress

SOFTWARE: US/08/795.430
CURRENT APPLICATION NUMBER: 08/08/795.430

APPELLATE: 435
FILING DATE: 435
CLASSIFICATION: 435
EXPIRATION DATE: 01/19/2004

PRIOR APPLICATION NUMBER: POL/111
APPLICATION DATE: 01-AUG-1996
DATA:

FILED APPLICATION DATE: 08/671,515
 FEE FOR APPLICATION NUMBER:
 APPLICATION NUMBER: 28-JUN-1996

FILING DATE: 08/601,132
 PRIOR APPLICATION NUMBER: 08/601,132
 PUBLICATION DATE: 08/601,132

APPLICANT: 14-FEB
FILING DATE: 08/585,895
APPLICATION DATA:
INVENTOR: 08/585,895
INVENTOR NUMBER:

APPLICATION NUMBER: 12-JAN-1990
 FILING DATE: 08/5/90, 143
 APPLICATION DATA:


PRIOR APPLICATION NUMBER: 01-006-1995
APPLICATION DATE: 01-006-1995
FILING DATE: 01-006-1995

PRIOR APPLICATION NUMBER: 08/340,071
APPLICATION DATE: 14-NOV-1994

FILE NO. 48-153
INFORMATION
ATTORNEY/AGENT
NAME: CLASS
SUMMIT

NAME: [REDACTED]
REGISTRATION NUMBER: 2870
REFERENCE/DOCKET INFORMATION:
[REDACTED]

TELECOMMUNICATIONS 312/474 6500
TELEPHONE:



Sequence 2, Aff-1
Sequence 6a, Aff-1
Sequence 6b, Aff-1
Patient No. 614771
Patient No. 614776
Patient No. 614779
Patient No. 614783
Sequence 15, Aff-1
Sequence 41, Aff-1
Sequence 43, Aff-1
Sequence 45, Aff-1
Patient No. 614787
Patient No. 614789
Patient No. 614793
Patient No. 614797
Sequence 1, Aff-1
Sequence 1, Aff-1
Sequence 2, Aff-1
Patient No. 614796

1. **NAME:** 3,5,5'-trichloro-4,4'-biphenyl
2. **INDEX:** 25, 686.
3. **DESCRIPTION:** This ring is not a
4. **STANDARD CHAIN TESTS:**
5. **LENGTH:** 419 amino acids
6. **TYPE:** amino acid
7. **FORMULA:** $C_{12}H_5Cl_3$
8. **MOLECULAR WEIGHT:** 286.4
9. **USE:** 686, 419, 68

| | | | | |
|------------------------|--------|--------------|----------|------------|
| Query Match | 100.0% | Score 2356 | 100.4 | Length 419 |
| Exact Local Similarity | 100.0% | Prod. No. 1 | Re 2622 | |
| Matches 419 | 0 | Mismatches 0 | Indels 0 | Gaps 0 |

[illegible][illegible]

```

1      IDENTITY INFORMATION INFORMATION:
2      IDENTIFIER: 412/474 6-000
3      PREFIX: 412/474 0448
4      PREFIX: 45 0856
5      INFORMATION FOR SEQ ID NO: 45:
6      SEQUENCE CHARACTERISTICS:
7      LENGTH: 419 amino acids
8      TYPE: amino acid
9      TOPOLOGY: linear
10     Molecule type: protein
11     SEQUENCE DESCRIPTION: SEQ ID NO: 45:
12     NS_004104.4:45

```

| | Energy Match | 100.0% | Scores | Fig. 4 | Locatl. | 44% |
|-----------------------|--------------|-----------|----------|--------|----------|-----|
| Best Local Similarity | 100.0% | Frac. No. | 1,86 | 20% | | |
| Matches | 44% | 0 | Mismatch | 0% | Incl. Is | 0% |

[illegible]

RESULT 4
US 08 999 801-2
2 Sequence 2, Application No US/08999811
3 Patent No. 5942746
4 GENERAL INFORMATION:
5 APPLICANT : HUI, JING SHAN
6 APPLICANT : KONG, CRAIG A.
7 APPLICANT : CAO, LINDA
8 TITLE OF INVENTION : VASCULAR ENDOTHELIAL GROWTH FACTOR 2
9 NUMBER OF CLAIMANTS : 15
10 CORRESPONDENT ADDRESS:
11 ADDRESSER : STEVEN RESSLER, CHILSTEIN & FOX
12 STREET : 1100 NEW YORK AVENUE
13 CITY : WASHINGTON
14 STATE : DC
15 COUNTRY : USA
16 ZIP : 20005
17 COMPUTER READABLE FORM:
18 METHOD TYPE : floppy disk
19 NUMBER : IBM PC compatible
20 OPERATING SYSTEM : pc dos/mk bios
21 SOFTWARE : format 1.0, version 1.00
22 CURRENT APPLICATION DATA:
23 APPLICATION NUMBER : 08/999,801
24 FILING DATE : HERCULIM
25 CLASSIFICATION:

1 PRIORITY APPLICATION DATA:
 2 APPLICATION NUMBER: US 09/207,550
 3 FILING DATE: 8 MAR 1994
 4 PRIORITY APPLICATION DATA:
 5 APPLICATION NUMBER: US 08/415,968
 6 FILING DATE: 06-08-1995
 7 ATTORNEY/AGENT INFORMATION:
 8 NAME: MARK W. STEER, KAREN B.
 9 REGISTRATION NUMBER: 46,688
 10 REFERENCE/EXCIT. NUMBER: 1484,199301
 11 TELECOMMUNICATION INFORMATION:
 12 TELEPHONE: (202) 871-2600
 13 TELEFAX: (202) 871-2640
 14 INFORMATION FOR SEQ. ID NO.: 2:
 15 SEQUENCE CHARACTERISTICS:
 16 LENGTH: 419 amino acids
 17 TYPE: amino acid
 18 TOPOLOGY: linear
 19 Molecule type: protein
 20 Sequence ID: 2

Query Match: 99.5%, Score 2426, DB 2, Length 419,
 Best Local Similarity: 99.5%, Field No. 1,48,201,
 Matches: 417, Conserved: 1, Mismatches: 1, Indels: 0, Gaps: 0

21 1 MHLLDPFVAA...
 22 1 MRLDLSFVAA...
 23 1 MRLDLSFVAA...
 24 1 MRLDLSFVAA...
 25 1 MRLDLSFVAA...
 26 1 MRLDLSFVAA...
 27 1 MRLDLSFVAA...
 28 1 MRLDLSFVAA...
 29 1 MRLDLSFVAA...
 30 1 MRLDLSFVAA...
 31 1 MRLDLSFVAA...
 32 1 MRLDLSFVAA...
 33 1 MRLDLSFVAA...
 34 1 MRLDLSFVAA...
 35 1 MRLDLSFVAA...
 36 1 MRLDLSFVAA...
 37 1 MRLDLSFVAA...
 38 1 MRLDLSFVAA...
 39 1 MRLDLSFVAA...
 40 1 MRLDLSFVAA...
 41 1 MRLDLSFVAA...
 42 1 MRLDLSFVAA...
 43 1 MRLDLSFVAA...
 44 1 MRLDLSFVAA...
 45 1 MRLDLSFVAA...
 46 1 MRLDLSFVAA...
 47 1 MRLDLSFVAA...
 48 1 MRLDLSFVAA...
 49 1 MRLDLSFVAA...
 50 1 MRLDLSFVAA...
 51 1 MRLDLSFVAA...
 52 1 MRLDLSFVAA...
 53 1 MRLDLSFVAA...
 54 1 MRLDLSFVAA...
 55 1 MRLDLSFVAA...
 56 1 MRLDLSFVAA...
 57 1 MRLDLSFVAA...
 58 1 MRLDLSFVAA...
 59 1 MRLDLSFVAA...
 60 1 MRLDLSFVAA...
 61 1 MRLDLSFVAA...
 62 1 MRLDLSFVAA...
 63 1 MRLDLSFVAA...
 64 1 MRLDLSFVAA...
 65 1 MRLDLSFVAA...
 66 1 MRLDLSFVAA...
 67 1 MRLDLSFVAA...
 68 1 MRLDLSFVAA...
 69 1 MRLDLSFVAA...
 70 1 MRLDLSFVAA...
 71 1 MRLDLSFVAA...
 72 1 MRLDLSFVAA...
 73 1 MRLDLSFVAA...
 74 1 MRLDLSFVAA...
 75 1 MRLDLSFVAA...
 76 1 MRLDLSFVAA...
 77 1 MRLDLSFVAA...
 78 1 MRLDLSFVAA...
 79 1 MRLDLSFVAA...
 80 1 MRLDLSFVAA...
 81 1 MRLDLSFVAA...
 82 1 MRLDLSFVAA...
 83 1 MRLDLSFVAA...
 84 1 MRLDLSFVAA...
 85 1 MRLDLSFVAA...
 86 1 MRLDLSFVAA...
 87 1 MRLDLSFVAA...
 88 1 MRLDLSFVAA...
 89 1 MRLDLSFVAA...
 90 1 MRLDLSFVAA...
 91 1 MRLDLSFVAA...
 92 1 MRLDLSFVAA...
 93 1 MRLDLSFVAA...
 94 1 MRLDLSFVAA...
 95 1 MRLDLSFVAA...
 96 1 MRLDLSFVAA...
 97 1 MRLDLSFVAA...
 98 1 MRLDLSFVAA...
 99 1 MRLDLSFVAA...
 100 1 MRLDLSFVAA...

RESULT 4
 US-09-042-105-2

1 Sequence 2, Application 05/09042105
 2 Patent No. 6040157
 3 GENERAL INFORMATION:
 4 APPLICANT: DR. JIMMY SHAN
 5 APPLICANT: ROSEN, CRAIG A.
 6 ATTORNEY: A. J. HARRIS
 7 TITLE OF INVENTION: VASITILAR ENDOGENOUS GROWTH FACTOR 2
 8 PRIORITY INFORMATION:
 9 ADDRESS/AGENT ADDRESS:
 10 ADDRESS: STEPHEN J. STEPHENSON & ASSOCIATES
 11 STREET: 1100 NEW YORK AVENUE
 12 CITY: WASHINGTON
 13 STATE: DC
 14 COUNTRY: USA
 15 ZIP: 20005
 16 * MOLECULAR RELATABLE FROM:

1 MEDIUM TYPE: floppy disk
 2 COMPUTER: IBM PC compatible
 3 OPERATING SYSTEM: MS-DOS/MS-WINDOWS
 4 SOFTWARE: Patent to Release #1.0, Version #1.40
 5 CURRENT APPLICATION DATA:
 6 APPLICATION NUMBER: US-09-042-105
 7 FILING DATE: HEREWITH
 8 CLASSIFICATION:
 9 PRIOR APPLICATION DATA:
 10 APPLICATION NUMBER: US 08/415,968
 11 FILING DATE: 8-MAR-1994
 12 CLASSIFICATION:
 13 PRIOR APPLICATION DATA:
 14 APPLICATION NUMBER: 08-415,968
 15 FILING DATE: 06-08-1995
 16 CLASSIFICATION:
 17 PRIOR APPLICATION DATA:
 18 APPLICATION NUMBER: TO BE ASSIGNED
 19 FILING DATE: 24-08-1997
 20 CLASSIFICATION:
 21 ATTORNEY/AGENT INFORMATION:
 22 NAME: ERIC K. STEER
 23 REGISTRATION NUMBER: 46,688
 24 REFERENCE/EXCIT. NUMBER: 1484,199301
 25 TELEPHONE: (202) 871-2600
 26 TELEFAX: (202) 871-2640
 27 INFORMATION FOR SEQ. ID NO.: 2:
 28 SEQUENCE CHARACTERISTICS:
 29 LENGTH: 419 amino acids
 30 TYPE: amino acid
 31 TOPOLOGY: linear
 32 Molecule type: protein
 33 US-09-042-105-2

Query Match: 99.5%, Score 2426, DB 2, Length 419,
 Best Local Similarity: 99.5%, Field No. 1,48,201,
 Matches: 417, Conserved: 1, Mismatches: 1, Indels: 0, Gaps: 0

34 1 MHLLDPFVAA...
 35 1 MRLDLSFVAA...
 36 1 MRLDLSFVAA...
 37 1 MRLDLSFVAA...
 38 1 MRLDLSFVAA...
 39 1 MRLDLSFVAA...
 40 1 MRLDLSFVAA...
 41 1 MRLDLSFVAA...
 42 1 MRLDLSFVAA...
 43 1 MRLDLSFVAA...
 44 1 MRLDLSFVAA...
 45 1 MRLDLSFVAA...
 46 1 MRLDLSFVAA...
 47 1 MRLDLSFVAA...
 48 1 MRLDLSFVAA...
 49 1 MRLDLSFVAA...
 50 1 MRLDLSFVAA...
 51 1 MRLDLSFVAA...
 52 1 MRLDLSFVAA...
 53 1 MRLDLSFVAA...
 54 1 MRLDLSFVAA...
 55 1 MRLDLSFVAA...
 56 1 MRLDLSFVAA...
 57 1 MRLDLSFVAA...
 58 1 MRLDLSFVAA...
 59 1 MRLDLSFVAA...
 60 1 MRLDLSFVAA...
 61 1 MRLDLSFVAA...
 62 1 MRLDLSFVAA...
 63 1 MRLDLSFVAA...
 64 1 MRLDLSFVAA...
 65 1 MRLDLSFVAA...
 66 1 MRLDLSFVAA...
 67 1 MRLDLSFVAA...
 68 1 MRLDLSFVAA...
 69 1 MRLDLSFVAA...
 70 1 MRLDLSFVAA...
 71 1 MRLDLSFVAA...
 72 1 MRLDLSFVAA...
 73 1 MRLDLSFVAA...
 74 1 MRLDLSFVAA...
 75 1 MRLDLSFVAA...
 76 1 MRLDLSFVAA...
 77 1 MRLDLSFVAA...
 78 1 MRLDLSFVAA...
 79 1 MRLDLSFVAA...
 80 1 MRLDLSFVAA...
 81 1 MRLDLSFVAA...
 82 1 MRLDLSFVAA...
 83 1 MRLDLSFVAA...
 84 1 MRLDLSFVAA...
 85 1 MRLDLSFVAA...
 86 1 MRLDLSFVAA...
 87 1 MRLDLSFVAA...
 88 1 MRLDLSFVAA...
 89 1 MRLDLSFVAA...
 90 1 MRLDLSFVAA...
 91 1 MRLDLSFVAA...
 92 1 MRLDLSFVAA...
 93 1 MRLDLSFVAA...
 94 1 MRLDLSFVAA...
 95 1 MRLDLSFVAA...
 96 1 MRLDLSFVAA...
 97 1 MRLDLSFVAA...
 98 1 MRLDLSFVAA...
 99 1 MRLDLSFVAA...
 100 1 MRLDLSFVAA...

RESULT 5
 US-09-042-105-18
 1 Sequence 18, Application 05/09042105
 2 Patent No. 6040157

[illegible][illegible]

[illegible]

```

1  TOPLOGY: linear
2  MOLECULE TYPE: protein
3  OS-08-795-430-11
4
5  Query Match      87.78%  Score 4346  DB 4  Length 4152
6  Post Local Similarity  65.48%  PVAL 0.01567766
7  Method 1582  Conservative 294  Missed/Pos 292  Index 4  Gaps 11
8
9  01  MHLLPESVA-SILAMALHSHREMAAAAFESHSLSLSTAPATATATAVASKRLPEEL 60
10  1111111111111111111111111111111111111111111111111111111
11  06  1 MHLLPESVA-SILAMALHSHREMAAAAFESHSLSLSTAPATATATAVASKRLPEEL 60
12  1111111111111111111111111111111111111111111111111111111
13  03  61 RSVSVQELMAYNTHNWRPTTSLAKSCGMHRLKQALNRTSLRLKFAAHNRLTLR 120
14  1111111111111111111111111111111111111111111111111111111
15  06  61 RSVSVQELMAYNTHNWRPTTSLAKSCGMHRLKQALNRTSLRLKFAAHNRLTLR 116
16  1111111111111111111111111111111111111111111111111111111
17  02  121 STEINMPETPTDRIEIVTAKALGVANLKLQVAVVSGQVTRGSLQVMSISY 180
18  1111111111111111111111111111111111111111111111111111111
19  01  117 LTRWLTQVQVAVVAVVAVVAVVAVVAVVAVVAVVAVVAVVAVVAVVAVVAVV 176
20  1111111111111111111111111111111111111111111111111111111
21  07  181 LKPTTETVTVLQVPTVETAPATVSTAPVTVVAVVAVVAVVAVVAVVAVVAVV 240
22  1111111111111111111111111111111111111111111111111111111
23  06  177 LSKLFELVETLQVETVETAPATVSTAPVTVVAVVAVVAVVAVVAVVAVVAVV 236
24  1111111111111111111111111111111111111111111111111111111
25  07  241 KETLVNVAHMLTQVLAGHMLSTVAGHSLSTETLQVRLKSLTETQVAKRLR 300
26  1111111111111111111111111111111111111111111111111111111
27  06  207 KPTLVNVAHMLTQVLAGHMLSTVAGHSLSTETLQVRLKSLTETQVAKRLR 296
28  1111111111111111111111111111111111111111111111111111111
29  07  201 PAVSVNRTLVKQVTVVETPTVETAPATVSTAPVTVVAVVAVVAVVAVVAVV 360
30  1111111111111111111111111111111111111111111111111111111
31  06  207 PAVSVNRTLVKQVTVVETPTVETAPATVSTAPVTVVAVVAVVAVVAVVAVV 356
32  1111111111111111111111111111111111111111111111111111111
33  07  461 PPTPQVQVETVETAPATVSTAPVTVVAVVAVVAVVAVVAVVAVVAVVAVV 416
34  1111111111111111111111111111111111111111111111111111111
35  06  457 PPTPQVQVETVETAPATVSTAPVTVVAVVAVVAVVAVVAVVAVVAVVAVV 412
36  1111111111111111111111111111111111111111111111111111111
37
38  RESULT 8
39  OS-08-510-133A-33
40  OS-08-510-133A-33
41  OS-08-510-133A-33
42  OS-08-510-133A-33
43  OS-08-510-133A-33
44  OS-08-510-133A-33
45  OS-08-510-133A-33
46  OS-08-510-133A-33
47  OS-08-510-133A-33
48  OS-08-510-133A-33
49  OS-08-510-133A-33
50  OS-08-510-133A-33
51  OS-08-510-133A-33
52  OS-08-510-133A-33
53  OS-08-510-133A-33
54  OS-08-510-133A-33
55  OS-08-510-133A-33
56  OS-08-510-133A-33
57  OS-08-510-133A-33
58  OS-08-510-133A-33
59  OS-08-510-133A-33
60  OS-08-510-133A-33
61  OS-08-510-133A-33
62  OS-08-510-133A-33
63  OS-08-510-133A-33
64  OS-08-510-133A-33
65  OS-08-510-133A-33
66  OS-08-510-133A-33
67  OS-08-510-133A-33
68  OS-08-510-133A-33
69  OS-08-510-133A-33
70  OS-08-510-133A-33
71  OS-08-510-133A-33
72  OS-08-510-133A-33
73  OS-08-510-133A-33
74  OS-08-510-133A-33
75  OS-08-510-133A-33
76  OS-08-510-133A-33
77  OS-08-510-133A-33
78  OS-08-510-133A-33
79  OS-08-510-133A-33
80  OS-08-510-133A-33
81  OS-08-510-133A-33
82  OS-08-510-133A-33
83  OS-08-510-133A-33
84  OS-08-510-133A-33
85  OS-08-510-133A-33
86  OS-08-510-133A-33
87  OS-08-510-133A-33
88  OS-08-510-133A-33
89  OS-08-510-133A-33
90  OS-08-510-133A-33
91  OS-08-510-133A-33
92  OS-08-510-133A-33
93  OS-08-510-133A-33
94  OS-08-510-133A-33
95  OS-08-510-133A-33
96  OS-08-510-133A-33
97  OS-08-510-133A-33
98  OS-08-510-133A-33
99  OS-08-510-133A-33
100 OS-08-510-133A-33

```


Wed Dec 26 12:34:05 2001

us-09-534-376a-8.ra1

Page 7

SEQUENCE: (202) 471-2540
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE: HEAVY CHAINS
LENGTH: 450 amino acids
TYPE: amino acid
LOCALITY: linear
MOLECULE TYPE: protein
US-09-534-376a-8.1

Query Match: 85.4%; Score: 1995; DB 2; Length: 350;
Best Local Similarity: 99.7%; Prod. No. 7, 4e-172;
Matches: 449; Conserved: 1; Mismatches: 0; Indels: 0; Gaps: 0;

QY 70 MVLVPEYEWKRYKQIPEKQVAVNTEPKKQVSVYRGGCCNSKQIOMNISTVLSKTLPEIT 129
DB 1 MVLVPEYEWKRYKQIPEKQVAVNTEPKKQVSVYRGGCCNSKQIOMNISTVLSKTLPEIT 60
QY 140 QMPREVCDVCKREGVAVNTEPKKQVSVYRGGCCNSKQIOMNISTVLSKTLPEIT 189
DB 1 QMPREVCDVCKREGVAVNTEPKKQVSVYRGGCCNSKQIOMNISTVLSKTLPEIT 120
QY 61 QMPREVCDVCKREGVAVNTEPKKQVSVYRGGCCNSKQIOMNISTVLSKTLPEIT 120
DB 61 QMPREVCDVCKREGVAVNTEPKKQVSVYRGGCCNSKQIOMNISTVLSKTLPEIT 120
QY 190 VPLSGCPKPVITSEFANHTSGVMESEVATVYVNSITRESIATTPQVQANKEETVYWM 249
DB 121 VPLSGCPKPVITSEFANHTSGVMESEVATVYVNSITRESIATTPQVQANKEETVYWM 180
QY 250 NNHTCGLAQDFPMSSADGSDTGTGHDICGPKKELDEETCGVCAALIVASCPHKE 309
DB 181 NNHTCGLAQDFPMSSADGSDTGTGHDICGPKKELDEETCGVCAALIVASCPHKE 240
QY 410 LDRNSQGVCKKLPSPQGANREPDENICGVCKRTGPRNOPINPKCACTETSPQK 369
DB 181 LDRNSQGVCKKLPSPQGANREPDENICGVCKRTGPRNOPINPKCACTETSPQK 240
QY 241 LDRNSQGVCKKLPSPQGANREPDENICGVCKRTGPRNOPINPKCACTETSPQK 300
DB 241 LDRNSQGVCKKLPSPQGANREPDENICGVCKRTGPRNOPINPKCACTETSPQK 300
QY 47 LKGRKHIDTGTGRRYRRCVGNPKAGVPEPSYSEVAVKVSYSWKPQMS 419
DB 401 LKGRKHIDTGTGRRYRRCVGNPKAGVPEPSYSEVAVKVSYSWKPQMS 350

RESULT 1:
US-09-534-376a-8.1
Sequence 2: Application US/0904249948
Patent No. 5945820
GENERAL INFORMATION:
APPLICANT: HU, JING-SHAN
APPLICANT: ROSEN, CRAIG A.
TITLE OF INVENTION: Polynucleotides encoding vascular endothelial growth
FILE REFERENCE: PFI1201
CURRENT FILING DATE: 1997-03-27
CURRENT FILING DATE: 1997-03-27
EASIER APPLICATOR NUMBER: 08/207,550
EASIER FILING DATE: 1994-03-08
NUMBER OF SEQ ID NOS: 9
SOFTWARE: Patent In. Ver. 2.0
Seq ID No. 2
LENGTH: 450
TYPE: PRT
LOCALITY: linear
MOLECULE TYPE: Homo sapiens
US-09-534-376a-8.2

Query Match: 85.4%; Score: 1995; DB 2; Length: 350;
Best Local Similarity: 99.7%; Prod. No. 7, 4e-172;
Matches: 449; Conserved: 1; Mismatches: 0; Indels: 0; Gaps: 0;

QY 70 MVLVPEYEWKRYKQIPEKQVAVNTEPKKQVSVYRGGCCNSKQIOMNISTVLSKTLPEIT 129
DB 1 MVLVPEYEWKRYKQIPEKQVAVNTEPKKQVSVYRGGCCNSKQIOMNISTVLSKTLPEIT 60
QY 140 QMPREVCDVCKREGVAVNTEPKKQVSVYRGGCCNSKQIOMNISTVLSKTLPEIT 189
DB 1 QMPREVCDVCKREGVAVNTEPKKQVSVYRGGCCNSKQIOMNISTVLSKTLPEIT 120

DB 61 QMPREVCDVCKREGVAVNTEPKKQVSVYRGGCCNSKQIOMNISTVLSKTLPEIT 120
QY 190 VPLSGCPKPVITSEFANHTSGVMESEVATVYVNSITRESIATTPQVQANKEETVYWM 249
DB 121 VPLSGCPKPVITSEFANHTSGVMESEVATVYVNSITRESIATTPQVQANKEETVYWM 180
QY 250 NNHTCGLAQDFPMSSADGSDTGTGHDICGPKKELDEETCGVCAALIVASCPHKE 309
DB 181 NNHTCGLAQDFPMSSADGSDTGTGHDICGPKKELDEETCGVCAALIVASCPHKE 240
QY 410 LDRNSQGVCKKLPSPQGANREPDENICGVCKRTGPRNOPINPKCACTETSPQK 369
DB 241 LDRNSQGVCKKLPSPQGANREPDENICGVCKRTGPRNOPINPKCACTETSPQK 300
QY 370 LKGRKHIDTGTGRRYRRCVGNPKAGVPEPSYSEVAVKVSYSWKPQMS 419
DB 401 LKGRKHIDTGTGRRYRRCVGNPKAGVPEPSYSEVAVKVSYSWKPQMS 350

RESULT 12
US-09-042-105-4
Sequence 4: Application US/09042105
Patent No. 6040157
GENERAL INFORMATION:
APPLICANT: HU, JING-SHAN
APPLICANT: ROSEN, CRAIG A.
TITLE OF INVENTION: VASCULAR ENDOTHELIAL GROWTH FACTOR 2
NUMBER OF SEQUENCES: 35
CORRESPONDENCE ADDRESS:
ADDRESS: STEFAN, KESSLER, GOLDSTEIN & FOX
SHERIDAN, 1100 NEW YORK AVENUE
CITY: WASHINGTON
STATE: DC
COUNTRY: USA
ZIP: 20005
COMPUTER READABLE FORM:
MEDIUM TYPE: floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent In Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/042,105
FILING DATE: HERMITH
CLASSIFICATION:
PRIORITY APPLICATION DATA:
APPLICATION NUMBER: US 08/207,550
FILING DATE: 8-MAR-1994
CLASSIFICATION:
PRIORITY APPLICATION DATA:
APPLICATION NUMBER: US 08/465,968
FILING DATE: 06-JUN-1995
CLASSIFICATION:
PRIORITY APPLICATION DATA:
APPLICATION NUMBER: TO BE ASSIGNED
FILING DATE: 24-DEC-1997
CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
NAME: ERIC K. STEFF
REGISTRATION NUMBER: 46,688
REFERENCE/EXCISE NUMBER: 148,100,000/3/35
TELEPHONE: (202) 371-2540
TELEFAX: (202) 371-2540
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 350 amino acids
TYPE: amino acid
LOCALITY: linear
MOLECULE TYPE: protein
US-09-042-105-4

...

[illegible]

[illegible]

RESULT 11
3C6380
vascular endothelial growth factor-related factor 167 precursor - mouse
Accession to names: VPE 167 protein

1

Computer Aided
Design - 2000 Computer Ltd.

Copyright (c) 1993 - 2000

protein source, using SW model

December 26, 2001, 11:29:50 (without alignments) updates/sec

375.705 MILLION DOLLARS

115-09-534-376A-B

2346 MULLEPPSVASILLAAIDP SYSPVGRVLSYWKIQR

Figure 1 is a schematic representation of the experimental design. It shows a sequence of events: Pretest, Training, and Transfer. The Pretest phase is labeled 'Pretest' and 'Posttest'. The Training phase is labeled 'Training' and 'Posttest'. The Transfer phase is labeled 'Transfer' and 'Posttest'. The Pretest and Training phases are connected by a horizontal line, and the Training and Transfer phases are connected by a horizontal line. The Posttest labels are placed at the end of each phase.

Exposure 0.5
Exposure 10.0, tape 0.5

1940-1941

100059

[illegible][illegible]

Maximum length: 200000000

Print - Processed by:
MILIMM Mat'la
MEXIMM Mat'la
MEXIMM Mat'la

EXERCISES
FIRST 45 SUMMATIONS
ENDING

$f_{\text{min}}^{\text{min}} = \min_{\mathbf{y}} f_{\text{min}}(\mathbf{y})$; *

N . is the number of items in the score of the result being predicted. N_0 is the number of equal to the score of the result distribution.

score greater than or equal to 100 was derived by analysis of the total score distribution.

SUMMARY

SUMMARY

| Result No. | Score | Country | Match | Length | DB | ID | Postscript |
|------------|-------|---------|-------|--------|------------|---------|-------------|
| 1 | 2446 | 100-0 | 419 | | VERB_HUMAN | 1497973 | homo sapien |
| 2 | 2044 | 87-7 | 415 | | VERB_MOUSE | 1497953 | mus musculu |
| 3 | 257 | 11-0 | 1700 | | HABX_CHICK | 1497476 | chickenomus |
| 4 | 226 | 9-7 | 215 | | VERB_HUMAN | 1491592 | homo sapien |
| 5 | 218-5 | 8-4 | 190 | | VERB_PIG | 1491591 | sus scrofa |
| 6 | 207-5 | 8-8 | 140 | | VERB_MOUSE | 1490781 | mus musculu |
| 7 | 208-5 | 8-8 | 140 | | VERB_RAT | 1491612 | rattus norv |
| 8 | 206-5 | 8-8 | 144 | | VERB_HUMAN | 1495941 | bos taurus |
| 9 | 199-5 | 8-5 | 144 | | VERB_CAVIO | 1496617 | capra porce |
| 10 | 182-5 | 7-8 | 215 | | VERB_CHICK | 1495484 | mytilus gal |
| 11 | 138-5 | 7-6 | 215 | | VERB_HUMAN | 1495582 | gallus gall |
| 12 | 175-5 | 7-5 | 188 | | VERB_MOUSE | 1497765 | homo sapien |
| 13 | 175 | 7-5 | 188 | | VERB_MOUSE | 1497766 | mus musculu |
| 14 | 173-5 | 7-4 | 146 | | VERB_SHEEP | 1497112 | ovis aries |
| 15 | 161-5 | 7-0 | 2882 | | VERB_CHICK | 1488443 | sus scrofa |
| 16 | 162-5 | 7-0 | 133 | | VERB_CHICK | 1490499 | gallus gall |
| 17 | 160-5 | 6-9 | 1808 | | VERB_MOUSE | 1492587 | rat norv |
| 18 | 160 | 6-8 | 2703 | | VERB_MOUSE | 1492027 | rat norv |
| 19 | 158 | 6-8 | 2703 | | VERB_PIG | 1492116 | sus scrofa |
| 20 | 157-5 | 6-7 | 1746 | | VERB_MOUSE | 1491001 | mus musculu |
| 21 | 157 | 6-7 | 2813 | | VERB_CAVIO | 1492895 | capra porce |
| 22 | 152-5 | 6-7 | 2911 | | VERB_HUMAN | 1495556 | homo sapien |
| 23 | 154-5 | 6-6 | 2907 | | VERB_MOUSE | 1491555 | mus musculu |
| 24 | 154 | 6-6 | 2437 | | VERB_BRAVE | 1495430 | brachydanto |
| 25 | 152-5 | 6-5 | 2524 | | VERB_XENIA | 1492783 | xenopus lae |
| 26 | 150 | 6-5 | 170 | | VERB_HUMAN | 1497676 | homo sapien |
| 27 | 139 | 6-4 | 2201 | | VERB_HUMAN | 1494821 | homo sapien |
| 28 | 139 | 6-4 | 2871 | | VERB_MOUSE | 1495585 | homo sapien |
| 29 | 139 | 6-4 | 2871 | | VERB_MOUSE | 1491554 | mus musculu |
| 30 | 138-5 | 6-4 | 2871 | | VERB_HUMAN | 1498143 | bos taurus |
| 31 | 137-5 | 6-4 | 1964 | | VERB_MOUSE | 1491695 | mus musculu |
| 32 | 137-5 | 6-3 | 2444 | | VERB_HUMAN | 1495541 | homo sapien |

| Accession | Length (bp) | GC (%) | Gene |
|-----------|-------------|--------|-------------|
| 34 | 145 | 6.2 | FNRI_PICU |
| 35 | 144 | 6.2 | WAF_HUMAN |
| 36 | 143 | 6.1 | SMI2_CAEH1 |
| 37 | 142.5 | 6.1 | SLC1_EBONK |
| 38 | 142.5 | 6.1 | ZNF7_MOUSE |
| 39 | 142 | 6.1 | PLATE_MOUSE |
| 40 | 141.5 | 6.1 | 148 |
| 41 | 141 | 6.0 | SMI2_CAEH1 |
| 42 | 140 | 6.0 | EM1_MOUSE |
| 43 | 139 | 6.0 | NCT1_MOUSE |
| 44 | 138 | 5.9 | CAR_MOUSE |
| 45 | 137 | 5.9 | FCR2_BRAT1 |
| | | | MOZ2_HUMAN |

| | | | |
|----|--|-----------------------------------|--------------|
| | RESULT | 1 | |
| ID | VASC_HUMAN | STANDARD: | PRI: 419 AA. |
| PF | P49767 | | |
| DT | 01-OCT-1996 | (Ref. 34, Created) | |
| DI | 01-OCT-1996 | (Ref. 34, Last sequence update) | |
| DT | 20-AUG-2001 | (Ref. 40, Last annotation update) | |
| DE | VASCULAR ENDOTHELIAL GROWTH FACTOR C PRECURSOR (VEGF-C) (VASCULAR | | |
| DE | VASCULAR ENDOTHELIAL GROWTH FACTOR RELATED PROTEIN) (VRP) (FL14 LIGAND) (FL14- | | |
| DE | ENDOTHELIAL GROWTH FACTOR RELATED PROTEIN) (VRP) (FL14 LIGAND) (FL14- | | |
| DE | L). | | |
| CN | VEGFC. | | |
| OC | Homo sapiens (Human). | | |
| OC | Fokryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; | | |
| OC | Mammalia; Eutheria; Primates; Catartida; Hominoidea; Homo. | | |
| OX | NCHLtaxID:9606; | | |
| RN | [1] | | |
| RX | SEQUENCE FROM N.A. AND SEQUENCE OF 103-120. | | |
| RX | SEQUENCE-96178224; PubMed-8017231. | | |
| RX | REDLINE-96178224; PubMed-8017231. | | |
| RA | Jockov V., Palusola K., Kaipainen A., Clivio D., Lahtinen I., Kuk E., | | |
| RA | Saksela O., Kalkonen N., Alitalo K. | | |
| RT | "A novel vascular endothelial growth factor - VEGF-C, is a ligand for | | |
| RT | the Flk4 (VEGFR-3) and KDR (VEGFR-2) receptor tyrosine kinases." | | |
| RL | EMBO J. 15:290-298(1996). | | |
| RL | [2] | | |
| RD | EPATENT-96203044; PubMed 8612400; | | |
| RX | REDLINE-96203044; PubMed 8612400; | | |
| RA | Jockov V., Palusola K., Kaipainen A., Clivio D., Lahtinen I., Kuk E., | | |
| RA | Saksela O., Kalkonen N., Alitalo K.; | | |
| RL | EMBO J. 15:1751-1751(1996). | | |
| RL | [3] | | |
| RN | SEQUENCE FROM N.A. | | |
| RX | REDLINE-96112526; PubMed-8708872; | | |
| RA | Lee J., Gray A., Yuan J., Luo S.M., Avraham H., Wood W.L.; | | |
| RA | "Vascular endothelial growth factor-related protein: a ligand and | | |
| RT | specific activator of the tyrosine kinase receptor Flk4." | | |
| RL | Proc. Natl. Acad. Sci. U.S.A. 93:1601-1606(1996). | | |
| RL | [4] | | |
| RN | SEQUENCE FROM N.A. | | |
| RP | Fitz B., Morris J.C., Towler P.S., Lind A.J., Green R., | | |
| RA | Burgess P., Gimblett J., Charlotta A., Honnery E., Kovacic S., | | |
| RA | Eltzberg M., Stetler-H. Welch H., Nien S., Finnerty H., | | |
| KA | Gallagher R., Wang J., Nickbarg E., Cassaway K., Turner K. | | |
| KA | Wong P. | | |
| RL | Submitted (JUN-1999) to the GeneBank/Genbank database. | | |
| RL | - FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND ENDOTHELIAL | | |
| CC | CELL GROWTH. | | |
| CC | - FUNCTION: HOMEOSTATICALLY PROCESSED IN THE CEREBRUMS. | | |
| CC | - PTM: PROBABLY PROBABILISTICALLY PROCESSED IN THE GROWTH FACTORS. | | |
| CC | - STIMULATIVE: BELONGS TO THE TRK/VGFR FAMILY OF GROWTH FACTORS. | | |
| CC | This Swiss-Pro entry is copyright. It is produced through a collaboration | | |
| CC | between the Swiss Institute of Bioinformatics and the EMBL institution. Its | | |
| CC | use by non-profit institutions as long as its content is in no way | | |
| CC | modified and this statement is not removed. Usage by and for commercial | | |
| CC | entities requires a license agreement (see http://www.isdb.ch/collaborative/) | | |

[illegible]

| | | | | |
|-------------------------|--|---------|---|--|
| F1 | Miscellaneous 114 | | Mat ₁ protein | |
| F1 | | / motif | "deduced residue from nucleotide sequence IS tyrosine" | |
| E1 | | | | |
| XX | | | | |
| FN | We790427-A1 | | | |
| XX | | | | |
| FD | 1-8-MAR-1997. | | | |
| XX | | | | |
| FE | 40 ADP; 1997 ; gWw_081407c. | | | |
| XX | | | | |
| F6 | 008 SEP 1997; y5DS_000449L. | | | |
| XX | | | | |
| FA | (DETH) -CHEN1157H INC. | | | |
| XX | | | | |
| F1 | Jee J., Wood W: | | | |
| XX | | | | |
| D6 | WPI; 1997 197902/17. | | | |
| XX | N F50B; AAT59929. | | | |
| FE | Human protein similar to vascular endothelial growth factor - used to treat eye wounds, tumours, rheumatoid arthritis, Kaposi's sarcoma etc. | | | |
| XX | | | | |
| ES | claim 6; Fig 1A-F; appo English. | | | |
| XX | | | | |
| CE | A human vascular endothelial growth factor (VEGF)-related protein (VRF) (AAW1478) has been identified that binds to, and stimulates the phosphorylation of, the receptor tyrosine kinase Flk4. It is postulated to be a third member of the VEGF protein family. Its amino acid sequence was deduced from a cDNA clone (AA159929) added from a cDNA cbl library. Recombinant VRF can be produced in transformed host cells and used: To promote growth of vascular and lymph endothelial cells; to stimulate the phosphorylation of the tyrosine kinase domain of a Flk4 receptor; as a diagnostic; as an additive to cell cultures; to screen for (anti)agonists; and to raise monoclonal antibodies used to treat conditions associated with excessive neovascularisation or vascular permeability. VRF may make it possible to avoid coronary by pass surgery by stimulating growth of the collateral circulation. | | | |
| NO | Sequence 419 AA: | | | |
| XX | | | | |
| Query Match: | 100.0% Score: 462; PH LR: Length 419; | | | |
| Posit Local Similarity: | 100.0%; Freq. No. 2,600,447 | | | |
| Matches 6/7: | Conservative 0; Mismatches 0; Indels 0; Gaps 0; | | | |
| G7 | 1 KKKKNSNRGQWNITSYNKELEETIVYSGTQYVITSTANMISWGKKIAYHG 60 | | | |
| | II | | | |
| D0 | I01 IGGDQSDSDQPMIDSLGYSLKELCTTPDHTPPGVLTGLDPTGTMSKIDRYT 220 | | | |
| G7 | 61 VHSITRP 67 | | | |
| | IIIIIIII | | | |
| D0 | 221 VHSITR 227 | | | |
| XX | | | | |
| RESULT 15 | | | | |
| AAW1478 | | | | |
| D0 | AAW1478 Standard: Protein; 419 AA. | | | |
| XX | | | | |
| AA | AAW1478: | | | |
| XX | | | | |
| D1 | 2-8 APR 1997 (first entry) | | | |
| XX | | | | |
| D0 | Human vascular endothelial growth factor 2. | | | |
| XX | | | | |
| KW | Vascular endothelial growth factor 2 [Wt02]; angiogenesis; endothelialisation; coronary bypass surgery; vascular graft surgery; diagnosis; diagnosis; therapy; diagnosis. | | | |
| XX | | | | |
| OS | Homo sapiens. | | | |
| XX | | | | |

.

.

Report version 4.5
Copyright (c) 1994 - 2000 Computer Ltd.

M Protein - protein search, using SW model

File: 201 December 20, 2001, 11:29:42 : Search time 70.66 seconds

(without allignments)
21,277 Million cell updates/sec

Database: US-09-534-376a-8 copy_161_227

Protein search: 1 REPRODUCTION/MINUTE/CELL/UPDATE/SEQUENCE/ALIGNMENT/SEARCH

Search Method: BLAST/BLAST

Score: 21,277

Total number of hits satisfying chosen parameters: 21,277

Minimum hit score length: 0

Maximum hit score length: 20000000

Post: 11:00:00 Minimum Match: 0

Maximum Match: 1000

Listing: 11:00:00 45 summaries

Insertion: 11:00:00 45 summaries

Post: No. 18 The number of results predicted by chance to have a score greater than or equal to the score of the result below printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | Match | Length | Hit | Insertion |
|------------|-------|-------|--------|-----|------------------|
| 1 | 46.2 | 100.0 | 450 | 2 | US-08-999-811-4 |
| 2 | 46.2 | 100.0 | 450 | 2 | US-08-824-999-2 |
| 3 | 46.2 | 100.0 | 450 | 4 | US-09-042-105-4 |
| 4 | 46.2 | 100.0 | 450 | 4 | US-08-510-144A-4 |
| 5 | 46.2 | 100.0 | 450 | 4 | US-08-585-895-34 |
| 6 | 46.2 | 100.0 | 419 | 2 | US-08-999-811-2 |
| 7 | 46.2 | 100.0 | 419 | 3 | US-09-042-105-2 |
| 8 | 46.2 | 100.0 | 419 | 4 | US-08-796-440-14 |
| 9 | 46.2 | 100.0 | 419 | 4 | US-08-510-144A-4 |
| 10 | 46.2 | 100.0 | 419 | 5 | US-08-796-440-14 |
| 11 | 46.2 | 100.0 | 419 | 5 | US-08-796-440-14 |
| 12 | 46.2 | 100.0 | 419 | 5 | US-08-796-440-14 |
| 13 | 46.2 | 100.0 | 419 | 5 | US-08-796-440-14 |
| 14 | 46.2 | 100.0 | 419 | 5 | US-08-796-440-14 |
| 15 | 46.2 | 100.0 | 419 | 5 | US-08-796-440-14 |
| 16 | 46.2 | 100.0 | 419 | 5 | US-08-796-440-14 |
| 17 | 46.2 | 100.0 | 419 | 5 | US-08-796-440-14 |
| 18 | 46.2 | 100.0 | 419 | 5 | US-08-796-440-14 |
| 19 | 46.2 | 100.0 | 419 | 5 | US-08-796-440-14 |
| 20 | 46.2 | 100.0 | 419 | 5 | US-08-796-440-14 |
| 21 | 46.2 | 100.0 | 419 | 5 | US-08-796-440-14 |
| 22 | 46.2 | 100.0 | 419 | 5 | US-08-796-440-14 |
| 23 | 46.2 | 100.0 | 419 | 5 | US-08-796-440-14 |
| 24 | 46.2 | 100.0 | 419 | 5 | US-08-796-440-14 |
| 25 | 46.2 | 100.0 | 419 | 5 | US-08-796-440-14 |
| 26 | 46.2 | 100.0 | 419 | 5 | US-08-796-440-14 |
| 27 | 46.2 | 100.0 | 419 | 5 | US-08-796-440-14 |

| | | | | | | |
|----|-----|------|-----|---|-----------------|--------------------|
| 28 | 126 | 44.8 | 282 | 4 | US-08-042-105-7 | Sequence 7, Appl 1 |
| 29 | 126 | 44.8 | 121 | 6 | US-08-042-105-7 | Sequence 7, Appl 1 |
| 30 | 126 | 44.8 | 121 | 6 | US-08-042-105-7 | Sequence 7, Appl 1 |
| 31 | 126 | 44.8 | 121 | 6 | US-08-042-105-7 | Sequence 7, Appl 1 |
| 32 | 126 | 44.8 | 121 | 6 | US-08-042-105-7 | Sequence 7, Appl 1 |
| 33 | 126 | 44.8 | 121 | 6 | US-08-042-105-7 | Sequence 7, Appl 1 |
| 34 | 126 | 44.8 | 121 | 6 | US-08-042-105-7 | Sequence 7, Appl 1 |
| 35 | 126 | 44.8 | 121 | 6 | US-08-042-105-7 | Sequence 7, Appl 1 |
| 36 | 126 | 44.8 | 121 | 6 | US-08-042-105-7 | Sequence 7, Appl 1 |
| 37 | 126 | 44.8 | 121 | 6 | US-08-042-105-7 | Sequence 7, Appl 1 |
| 38 | 126 | 44.8 | 121 | 6 | US-08-042-105-7 | Sequence 7, Appl 1 |
| 39 | 126 | 44.8 | 121 | 6 | US-08-042-105-7 | Sequence 7, Appl 1 |
| 40 | 126 | 44.8 | 121 | 6 | US-08-042-105-7 | Sequence 7, Appl 1 |
| 41 | 126 | 44.8 | 121 | 6 | US-08-042-105-7 | Sequence 7, Appl 1 |
| 42 | 126 | 44.8 | 121 | 6 | US-08-042-105-7 | Sequence 7, Appl 1 |
| 43 | 126 | 44.8 | 121 | 6 | US-08-042-105-7 | Sequence 7, Appl 1 |
| 44 | 126 | 44.8 | 121 | 6 | US-08-042-105-7 | Sequence 7, Appl 1 |
| 45 | 126 | 44.8 | 121 | 6 | US-08-042-105-7 | Sequence 7, Appl 1 |

ALIGNMENTS

RESULT 1
US-08-999-811-4
Sequence 4, Appl 1
Patient No. 5942540
GENERAL INFORMATION:
APPLICANT: H. JING-SHAN
APPLICANT: ROSEN, GRANT A.
ADDRESS: 1000 N. 10TH ST., APT. 2
CITY: WASHINGTON
STATE: DC
COUNTRY: USA
ZIP: 20005
COMPUTER READABLE FORM:
MEDIUM TYPE: FLOPPY DISK
OPERATING SYSTEM: IBM PC compatible
SOFTWARE: Patient to Release #1.0, Version #1.40
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US-08-999-811
CLASSIFICATION:
FILING DATE: HEREWITH
PRIORITY APPLICATION DATA:
APPLICATION NUMBER: US-08-207-550
FILING DATE: 8-MAR-1994
PRIORITY APPLICATION DATA:
APPLICATION NUMBER: 06-JUN-1995
FILING DATE: 06-JUN-1995
ATTORNEY/AGENT INFORMATION:
NAME: MARK W. K. KARRER
REGISTRATION NUMBER: 66,351
REFERENCE/DEPOSIT NUMBER: 1499, 1000004
TELEPHONE: (202) 371-2600
TELEFAX: (202) 371-2540
INFORMATION FOR SEQ ID NO. 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 450 amino acids
TYPE: amino acid
SOURCE: Human
MEDIUM TYPE: Protein
US-08-999-811-4
Query Match: 100.0% Score: 46.2 Hit: 2 Length: 450
Post Local Similarity: 100.0% Freq. No. 4, 60-46


```

1  ADDRESS: 801 THE CHAN
2  APPLICANT: ROSEN, CAROL A.
3  TITLE OF INVENTION: VASCULAR ENDOTHELIAL GROWTH FACTOR 2
4  NUMBER OF SEQUENCES: 45
5  CORRESPONDENT ADDRESS:
6  ADDRESSEE: STEERING KINETICS CORPORATION A PO BOX
7  STREET: 1100 NEW YORK AVENUE
8  CITY: WASHINGTON
9  STATE: DC
10 COUNTRY: USA
11 ZIP: 20006
12 REGISTER NUMBER: 6068
13 MEDIUM TYPE: floppy disk
14 OPERATING SYSTEM: pc-pos/ms-dos
15 SOFTWARE: PATENT RELEASE #1.0, Version #1.00
16 CURRENT APPLICATION DATA:
17 APPLICATION NUMBER: 09/042,105
18 FILING DATE: HEREWITH
19 CLASSIFICATION:
20 PRIOR APPLICATION DATA:
21 APPLICATION NUMBER: 09/042,105
22 FILING DATE: 06/20/2001
23 CLASSIFICATION:
24 APPLICATION NUMBER: 09/042,105
25 FILING DATE: 06/20/2001
26 CLASSIFICATION:
27 APPLICATION NUMBER: 09/042,105
28 FILING DATE: 06/20/2001
29 CLASSIFICATION:
30 APPLICATION NUMBER: 09/042,105
31 FILING DATE: 06/20/2001
32 CLASSIFICATION:
33 APPLICATION NUMBER: 09/042,105
34 FILING DATE: 06/20/2001
35 CLASSIFICATION:
36 APPLICATION NUMBER: 09/042,105
37 FILING DATE: 06/20/2001
38 CLASSIFICATION:
39 APPLICATION NUMBER: 09/042,105
40 FILING DATE: 06/20/2001
41 CLASSIFICATION:
42 APPLICATION NUMBER: 09/042,105
43 FILING DATE: 06/20/2001
44 CLASSIFICATION:
45 APPLICATION NUMBER: 09/042,105
46 FILING DATE: 06/20/2001
47 CLASSIFICATION:
48 APPLICATION NUMBER: 09/042,105
49 FILING DATE: 06/20/2001
50 CLASSIFICATION:
51 APPLICATION NUMBER: 09/042,105
52 FILING DATE: 06/20/2001
53 CLASSIFICATION:
54 APPLICATION NUMBER: 09/042,105
55 FILING DATE: 06/20/2001
56 CLASSIFICATION:
57 APPLICATION NUMBER: 09/042,105
58 FILING DATE: 06/20/2001
59 CLASSIFICATION:
60 APPLICATION NUMBER: 09/042,105
61 FILING DATE: 06/20/2001
62 CLASSIFICATION:
63 APPLICATION NUMBER: 09/042,105
64 FILING DATE: 06/20/2001
65 CLASSIFICATION:
66 APPLICATION NUMBER: 09/042,105
67 FILING DATE: 06/20/2001
68 CLASSIFICATION:
69 APPLICATION NUMBER: 09/042,105
70 FILING DATE: 06/20/2001
71 CLASSIFICATION:
72 APPLICATION NUMBER: 09/042,105
73 FILING DATE: 06/20/2001
74 CLASSIFICATION:
75 APPLICATION NUMBER: 09/042,105
76 FILING DATE: 06/20/2001
77 CLASSIFICATION:
78 APPLICATION NUMBER: 09/042,105
79 FILING DATE: 06/20/2001
80 CLASSIFICATION:
81 APPLICATION NUMBER: 09/042,105
82 FILING DATE: 06/20/2001
83 CLASSIFICATION:
84 APPLICATION NUMBER: 09/042,105
85 FILING DATE: 06/20/2001
86 CLASSIFICATION:
87 APPLICATION NUMBER: 09/042,105
88 FILING DATE: 06/20/2001
89 CLASSIFICATION:
90 APPLICATION NUMBER: 09/042,105
91 FILING DATE: 06/20/2001
92 CLASSIFICATION:
93 APPLICATION NUMBER: 09/042,105
94 FILING DATE: 06/20/2001
95 CLASSIFICATION:
96 APPLICATION NUMBER: 09/042,105
97 FILING DATE: 06/20/2001
98 CLASSIFICATION:
99 APPLICATION NUMBER: 09/042,105
100 FILING DATE: 06/20/2001

```

```

1  ADDRESS: STEERING KINETICS CORPORATION A PO BOX
2  STREET: 1100 NEW YORK AVENUE
3  CITY: WASHINGTON
4  STATE: DC
5  COUNTRY: USA
6  ZIP: 20006
7  REGISTER NUMBER: 6068
8  MEDIUM TYPE: floppy disk
9  OPERATING SYSTEM: pc-pos/ms-dos
10 SOFTWARE: PATENT RELEASE #1.0, Version #1.00
11 CURRENT APPLICATION DATA:
12 APPLICATION NUMBER: 09/042,105
13 FILING DATE: HEREWITH
14 CLASSIFICATION:
15 PRIOR APPLICATION DATA:
16 APPLICATION NUMBER: 09/042,105
17 FILING DATE: 06/20/2001
18 CLASSIFICATION:
19 APPLICATION NUMBER: 09/042,105
20 FILING DATE: 06/20/2001
21 CLASSIFICATION:
22 APPLICATION NUMBER: 09/042,105
23 FILING DATE: 06/20/2001
24 CLASSIFICATION:
25 APPLICATION NUMBER: 09/042,105
26 FILING DATE: 06/20/2001
27 CLASSIFICATION:
28 APPLICATION NUMBER: 09/042,105
29 FILING DATE: 06/20/2001
30 CLASSIFICATION:
31 APPLICATION NUMBER: 09/042,105
32 FILING DATE: 06/20/2001
33 CLASSIFICATION:
34 APPLICATION NUMBER: 09/042,105
35 FILING DATE: 06/20/2001
36 CLASSIFICATION:
37 APPLICATION NUMBER: 09/042,105
38 FILING DATE: 06/20/2001
39 CLASSIFICATION:
40 APPLICATION NUMBER: 09/042,105
41 FILING DATE: 06/20/2001
42 CLASSIFICATION:
43 APPLICATION NUMBER: 09/042,105
44 FILING DATE: 06/20/2001
45 CLASSIFICATION:
46 APPLICATION NUMBER: 09/042,105
47 FILING DATE: 06/20/2001
48 CLASSIFICATION:
49 APPLICATION NUMBER: 09/042,105
50 FILING DATE: 06/20/2001
51 CLASSIFICATION:
52 APPLICATION NUMBER: 09/042,105
53 FILING DATE: 06/20/2001
54 CLASSIFICATION:
55 APPLICATION NUMBER: 09/042,105
56 FILING DATE: 06/20/2001
57 CLASSIFICATION:
58 APPLICATION NUMBER: 09/042,105
59 FILING DATE: 06/20/2001
60 CLASSIFICATION:
61 APPLICATION NUMBER: 09/042,105
62 FILING DATE: 06/20/2001
63 CLASSIFICATION:
64 APPLICATION NUMBER: 09/042,105
65 FILING DATE: 06/20/2001
66 CLASSIFICATION:
67 APPLICATION NUMBER: 09/042,105
68 FILING DATE: 06/20/2001
69 CLASSIFICATION:
70 APPLICATION NUMBER: 09/042,105
71 FILING DATE: 06/20/2001
72 CLASSIFICATION:
73 APPLICATION NUMBER: 09/042,105
74 FILING DATE: 06/20/2001
75 CLASSIFICATION:
76 APPLICATION NUMBER: 09/042,105
77 FILING DATE: 06/20/2001
78 CLASSIFICATION:
79 APPLICATION NUMBER: 09/042,105
80 FILING DATE: 06/20/2001
81 CLASSIFICATION:
82 APPLICATION NUMBER: 09/042,105
83 FILING DATE: 06/20/2001
84 CLASSIFICATION:
85 APPLICATION NUMBER: 09/042,105
86 FILING DATE: 06/20/2001
87 CLASSIFICATION:
88 APPLICATION NUMBER: 09/042,105
89 FILING DATE: 06/20/2001
90 CLASSIFICATION:
91 APPLICATION NUMBER: 09/042,105
92 FILING DATE: 06/20/2001
93 CLASSIFICATION:
94 APPLICATION NUMBER: 09/042,105
95 FILING DATE: 06/20/2001
96 CLASSIFICATION:
97 APPLICATION NUMBER: 09/042,105
98 FILING DATE: 06/20/2001
99 CLASSIFICATION:
100 APPLICATION NUMBER: 09/042,105

```


04: 204 033116P 210

Search completed: December 26, 2001, 11:29:52
Top Kimo = 100% 50%

RA Tissue W., Jachmes G., Khand W.-J., Gieddel T.V., Ferrara N.
 "Vascular endothelial growth factor is a secreted angiogenic
 mitogen."
 RL Science 246:1496-1499(1999).
 RL Science 246:1496-1499(1999).
 RA SCIENCE FROM N.A. AND PASTIAL SEQUENCE.
 RA MEDLINE:90069679; PubMed 24799877.
 RA Kooz P. J., Hauer S. P., Kriel G., Sisco K., Warren T., Feder J.
 "Connolly D.I."
 RA "Vascular permeability factor, an endothelial cell mitogen related to
 RT VEGF."
 RL Science 246:1409-1412(1989).
 RA SCIENCE FROM N.A.
 RA MEDLINE:9126072; PubMed 1711045.
 RA Fischer E., Mitchell R., Hartman T., Silva M., Gospodarowicz D.,
 RA Fiddes J.C., Abraham J.A.
 RA "The human gene for vascular endothelial growth factor. Multiple
 RT protein forms are encoded through alternative exon splicing."
 RL J. Biol. Chem. 266:11947-11954(1991).
 RA SCIENCE FROM N.A.
 RA MEDLINE:92241879; PubMed 1567195.
 RA Weinuel K., Marten D., Welch H.A.
 RA "AIDS-associated Kaposi's sarcoma cells in culture express vascular
 RT endothelial growth factor."
 RL Biochem. Biophys. Res. Commun. 184:1167-1174(1992).
 RA SCIENCE FROM N.A.
 RA MEDLINE:90062112; PubMed 2584205.
 RA Connolly D.I., Olander J.V., Heyvolman D., Nelson R., Messall R.,
 RA Stager N., Haymer H., Leimhuber H., Feder J.
 RA "Human vascular permeability factor. Isolation from U937 cells."
 RL J. Biol. Chem. 264:23017-23024(1989).
 RA SCIENCE FROM N.A.
 RA MEDLINE:9145946; PubMed 7678805.
 RA Friedrich B., Jaeger C., Schellmann C., Weinuel K., Willing J.,
 RA Kabis G., Marino D., Hong H., Welch H.A.
 RA "Synthesis and assembly of functionally active human vascular
 RT endothelial growth factor homodimers in insect cells."
 RL Eur. J. Biochem. 211:19-26(1993).
 RA SCIENCE FROM N.A.
 RA MEDLINE:92452774; PubMed 9297967.
 RA Muller Y.A., Li B., Christinger H.W., Wells J.A., Cunningham B.C.,
 RA de Vos A.M.
 RA "Vascular endothelial growth factor: crystal structure and functional
 RT mapping of the kinase domain receptor binding site."
 RL Proc. Natl. Acad. Sci. U.S.A. 94:7192-7197(1997).
 RA SCIENCE FROM N.A.
 RA MEDLINE:96035455; PubMed 9351807.
 RA Muller Y.A., Christinger H.W., Keyt B.A., de Vos A.M.
 RA "The crystal structure of vascular endothelial growth factor (VEGF)
 RT refined to 1.93-A resolution: multiple copy flexibility and receptor
 RT binding."
 RL Structure 5:1325-1338(1997).
 RA SCIENCE FROM N.A.
 RA X-RAY CRYSTALLOGRAPHY (1.9 ANGSTROMS) OF 39-134.
 RA MEDLINE 99119201; PubMed 9922142.
 RA Wisnmann C., Christinger H.W., Cochran A.G., Cunningham B.C.,
 RA Fairbrother W.J., Korman T.J., Mong G., de Vos A.M.
 RA "Crystal structure of the complex between VEGF and a receptor-binding
 RT peptide."
 RL Biochemistry 37:17765-17772(1998).
 RA SCIENCE FROM N.A.
 RA STRUCTURE BY NMR OF 34-145.
 RA MEDLINE 97477915; PubMed 9456848.
 RA Fairbrother W.J., Champo M.A., Christinger H.W., Keyt B.A.,
 RA Starovastnik M.A.
 RA "His 140, and 15N backbone assignment and secondary structure of the
 RT receptor-binding domain of vascular endothelial growth factor."

RL Protein Sci. 6:2250-2260(1997).
 RA SCIENCE FROM N.A.
 RA MEDLINE:98298440; PubMed 9634701.
 RA Fairbrother W.J., Champo M.A., Christinger H.W., Keyt B.A.,
 RA Starovastnik M.A.
 RA "Solution structure of the heparin binding domain of vascular
 RT endothelial growth factor."
 RL Structure 6:647-648(1998).
 RA SCIENCE FROM N.A.
 RA MEDLINE:96035455; PubMed 9351807.
 RA Muller Y.A., Christinger H.W., Keyt B.A., de Vos A.M.
 RA "The crystal structure of vascular endothelial growth factor (VEGF)
 RT refined to 1.93-A resolution: multiple copy flexibility and receptor
 RT binding."
 RL Structure 5:1325-1338(1997).
 RA SCIENCE FROM N.A.
 RA X-RAY CRYSTALLOGRAPHY (1.9 ANGSTROMS) OF 39-134.
 RA MEDLINE 99119201; PubMed 9922142.
 RA Wisnmann C., Christinger H.W., Cochran A.G., Cunningham B.C.,
 RA Fairbrother W.J., Korman T.J., Mong G., de Vos A.M.
 RA "Crystal structure of the complex between VEGF and a receptor-binding
 RT peptide."
 RL Biochemistry 37:17765-17772(1998).
 RA SCIENCE FROM N.A.
 RA STRUCTURE BY NMR OF 34-145.
 RA MEDLINE 97477915; PubMed 9456848.
 RA Fairbrother W.J., Champo M.A., Christinger H.W., Keyt B.A.,
 RA Starovastnik M.A.
 RA "His 140, and 15N backbone assignment and secondary structure of the
 RT receptor-binding domain of vascular endothelial growth factor."

E1 VASOACTIVE 142 165 MISSING (IN ISOPHARM VEGF-165)
 E1 VASOACTIVE 142 209 MISSING (IN ISOPHARM VEGF-121)
 S0 SEQUENCE 215 AA: 2117 MW: 769756AD5871FF58 CR654;

Query Match
 Best Local Similarity 40.78% Score 119 Length 164
 Matches 24 Conservative 7 Mismatches 41 Indels 2 Gaps 1

QY 1 KGGVGNSSGQKNTSTSTSKITFEITVLSGKRVITSPANNISGKSKILVYRG 60
 111111 111111 111111 111111 111111 111111 111111 111111
 DB 81 KGGVGNSSGQKNTSTSTSKITFEITVLSGKRVITSPANNISGKSKILVYRG 144
 QY 61 VLSIR 66
 111111 111111 111111 111111 111111 111111 111111 111111
 DB 144 DRAG 148

RESULT 4

VEGF_P13 STANDARD: PRT: 190 AA.

AC P49151
 DT 01 AUG 1996 (Ref. 44, Cited)
 DT 01 FEB 1996 (Ref. 44, Last sequence update)
 DT 20 AUG 2001 (Ref. 40, Last annotation update)
 DE VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR (VEGF) (VASCULAR PERMEABILITY FACTOR) (VPF).

GN VEGF.

OS Eukaryotic (Homo sapiens).

OC Eukaryotic; Metazoa; Chordata; Vertebrata; Euteleostomi;

OC Mammalia; Eutheria; Eularchia; Suidae; Sus.

OX NCBI Taxid 9823

RN 111

RP SEQUENCE FROM N.A.

RA EUSKIP

RE METALINE 90144284: PubMed/7841203

RT SHIMIZU H.S., JUNG Z.H., CHOI H.C.H., WARDON P.D.:

"Nucleotide sequence and expression of the porcine vascular endothelial growth factor."

BI Biochem Biophys Acta 1260:245, 248(1995).

CC 1 FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND ENDOTHELIAL CELL GROWTH. INDICES ENDOTHELIAL PROLIFERATION AND VASCULAR PERMEABILITY (BY SIMILARITY).

CC 1 SUBUNIT: HOMODIMER; DISULFIDE-LINKED (BY SIMILARITY).

CC 1 SOLUBLE: GROWTH FACTOR SECRETED BUT REMAINS ASSOCIATED TO CELLS OR TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN (BY SIMILARITY).

CC 1 SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.

CC This SwissProt entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation.

CC The European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (see <http://www.ebi.ac.uk/submit/> or send an email to license@ebi.ac.uk).

CC EMBL: M84230; AAA47057.1

CC HSBST: D15692.2; VEGF.

CC PROSITE: PS00274; PDGF-1.

CC PROSITE: PS00274; PDGF-2.

CC MITOGEN: Growth factor; Glycoprotein.

CC POTENTIAL: 26

CC CHAIN: 27 190 VASCULAR ENDOTHELIAL GROWTH FACTOR.

CC DISULFID: 54 93 BY SIMILARITY.

CC DISULFID: 82 127 BY SIMILARITY.

CC DISULFID: 86 129 BY SIMILARITY.

CC DISULFID: 76 79 INTERCHAIN (BY SIMILARITY).

CC DISULFID: 85 85 INTERCHAIN (BY SIMILARITY).

E1 CARDIOVIT 100 100 N LINKED (GDNF) (POTENTIAL)
 S0 SEQUENCE 190 AA: 22468 MW: 640480D791447F CR654;

Query Match
 Best Local Similarity 40.78% Score 119 Length 164
 Matches 24 Conservative 7 Mismatches 41 Indels 2 Gaps 1

QY 1 KGGVGNSSGQKNTSTSTSKITFEITVLSGKRVITSPANNISGKSKILVYRG 60
 111111 111111 111111 111111 111111 111111 111111 111111
 DB 81 KGGVGNSSGQKNTSTSTSKITFEITVLSGKRVITSPANNISGKSKILVYRG 144
 QY 56 VYRG 60
 111111 111111 111111 111111 111111 111111 111111 111111
 DB 144 DRAG 148

RESULT 5

VEGF_P13 STANDARD: PRT: 164 AA.

AC P26617
 DT 01 AUG 1992 (Ref. 25, Cited)
 DT 01 FEB 1992 (Ref. 25, Last sequence update)
 DT 20 AUG 2001 (Ref. 40, Last annotation update)
 DE VASCULAR ENDOTHELIAL GROWTH FACTOR (VEGF) (VASCULAR PERMEABILITY FACTOR) (VPF).

GN VEGF.

OS Eukaryotic (Homo sapiens).

OC Eukaryotic; Metazoa; Chordata; Vertebrata; Euteleostomi;

OC Mammalia; Eutheria; Eularchia; Suidae; Sus.

OX NCBI Taxid 10141

RN 111

RP SEQUENCE FROM N.A.

RA EUSKIP

RE SUBMITTER (XAX-1992) TO THE EMBL OUTSTATION AND DATABASES.

CC 1 FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND ENDOTHELIAL CELL GROWTH. INDICES ENDOTHELIAL PROLIFERATION AND VASCULAR PERMEABILITY.

CC 1 SUBUNIT: HOMODIMER; DISULFIDE-LINKED.

CC 1 SOLUBLE: GROWTH FACTOR SECRETED BUT REMAINS ASSOCIATED TO CELLS OR TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN (BY SIMILARITY).

CC 1 SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.

CC This SwissProt entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation.

CC The European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (see <http://www.ebi.ac.uk/submit/> or send an email to license@ebi.ac.uk).

CC EMBL: M84230; AAA47057.1

CC HSBST: D15692.2; VEGF.

CC PROSITE: PS00274; PDGF-1.

CC PROSITE: PS00274; PDGF-2.

CC MITOGEN: Growth factor; Glycoprotein.

CC POTENTIAL: 25

CC CHAIN: 56 101 BY SIMILARITY.

CC DISULFID: 60 104 BY SIMILARITY.

CC DISULFID: 50 50 INTERCHAIN (BY SIMILARITY).

CC DISULFID: 59 59 INTERCHAIN (BY SIMILARITY).

CC CARBOHYD: 74 74 N-LINKED (GDNF) (POTENTIAL).

CC SEQUENCE: 164 AA: 19430 MW: 96866B1A9D502A4 CR654;

Query Match
 Best Local Similarity 40.78% Score 119 Length 164
 Matches 24 Conservative 7 Mismatches 41 Indels 2 Gaps 1

Wed Dec 26 12:34:09 2001

us-09-534-376a-8_copy_161_227.rsp

Page 11



[illegible][illegible]

OR PROSITE: PS50278; PAGE 2; 1;
 SEQ SEQUENCE: 174 AA; 20218 MW; AFBH400CA7757644 CIRC64;

Query Match: 44.0%; Score 124; 10 6; Length 174;
 Host Local Similarity: 41.7%; Pred. No. 6; 10 08;
 Matches: 27; Conserved: 6; Mismatches: 27; Indels: 2; Gaps: 1;

G7 1 REGION: NSBGLGMMISVSTLFTFTVLSGSRKVLISANHSYRMSLLVYRQ 60
 111111 111111 111111 111111 111111 111111 111111 111111 111111 111111
 10 6 REGION: NSBGLGMMISVSTLFTFTVLSGSRKVLISANHSYRMSLLVYRQ 139

RESULT 14

OR PROSITE: PS50278; PAGE 2; 200 AA;
 SEQ SEQUENCE: 174 AA; 20218 MW; AFBH400CA7757644 CIRC64;

OR PROSITE: PS50278; PAGE 2; 200 AA;
 SEQ SEQUENCE: 174 AA; 20218 MW; AFBH400CA7757644 CIRC64;

OR PROSITE: PS50278; PAGE 2; 200 AA;
 SEQ SEQUENCE: 174 AA; 20218 MW; AFBH400CA7757644 CIRC64;

OR PROSITE: PS50278; PAGE 2; 200 AA;
 SEQ SEQUENCE: 174 AA; 20218 MW; AFBH400CA7757644 CIRC64;

OR PROSITE: PS50278; PAGE 2; 200 AA;
 SEQ SEQUENCE: 174 AA; 20218 MW; AFBH400CA7757644 CIRC64;

OR PROSITE: PS50278; PAGE 2; 200 AA;
 SEQ SEQUENCE: 174 AA; 20218 MW; AFBH400CA7757644 CIRC64;

OR PROSITE: PS50278; PAGE 2; 200 AA;
 SEQ SEQUENCE: 174 AA; 20218 MW; AFBH400CA7757644 CIRC64;

Query Match: 44.0%; Score 124; 10 6; Length 208;
 Host Local Similarity: 40.0%; Pred. No. 6; 10 08;
 Matches: 27; Conserved: 7; Mismatches: 25; Indels: 12; Gaps: 2;

G7 1 REGION: NSBGLGMMISVSTLFTFTVLSGSRKVLISANHSYRMSLLVYRQ 55
 111111 111111 111111 111111 111111 111111 111111 111111 111111 111111
 10 6 REGION: NSBGLGMMISVSTLFTFTVLSGSRKVLISANHSYRMSLLVYRQ 139

G7 56 IYRQVHSILR 66
 111111 111111 111111 111111 111111 111111 111111 111111 111111 111111
 10 6 IYRQVHSILR 144

RESULT 15

OR PROSITE: PS50278; PAGE 2; 214 AA;
 SEQ SEQUENCE: 174 AA; 20218 MW; AFBH400CA7757644 CIRC64;

OR PROSITE: PS50278; PAGE 2; 214 AA;
 SEQ SEQUENCE: 174 AA; 20218 MW; AFBH400CA7757644 CIRC64;

OR PROSITE: PS50278; PAGE 2; 214 AA;
 SEQ SEQUENCE: 174 AA; 20218 MW; AFBH400CA7757644 CIRC64;

OR PROSITE: PS50278; PAGE 2; 214 AA;
 SEQ SEQUENCE: 174 AA; 20218 MW; AFBH400CA7757644 CIRC64;

OR PROSITE: PS50278; PAGE 2; 214 AA;
 SEQ SEQUENCE: 174 AA; 20218 MW; AFBH400CA7757644 CIRC64;

OR PROSITE: PS50278; PAGE 2; 214 AA;
 SEQ SEQUENCE: 174 AA; 20218 MW; AFBH400CA7757644 CIRC64;

Query Match: 44.0%; Score 124; 10 6; Length 214;
 Host Local Similarity: 40.0%; Pred. No. 6; 10 08;
 Matches: 27; Conserved: 7; Mismatches: 25; Indels: 12; Gaps: 2;

G7 1 REGION: NSBGLGMMISVSTLFTFTVLSGSRKVLISANHSYRMSLLVYRQ 55
 111111 111111 111111 111111 111111 111111 111111 111111 111111 111111
 10 6 REGION: NSBGLGMMISVSTLFTFTVLSGSRKVLISANHSYRMSLLVYRQ 139

G7 56 IYRQVHSILR 66
 111111 111111 111111 111111 111111 111111 111111 111111 111111 111111
 10 6 IYRQVHSILR 144

Search completed: December 26, 2001, 11:44:07
 Job Time: 895 sec

Wed Dec 26 12:34:09 2001

us-09-534-376a-8_copy_161_227.rspt

Page 7

XX Homo sapiens.

FI Key Location/Qualifiers

FI Peptide 1..102

FI Peptide /label Prepro_peptide

FI Peptide 32..227

FI Peptide /note "Preferred active fragment of VEGF-C, retaining F14 ligand activity (claim 15)"

FI Peptide 103..217

FI Peptide /note "Preferred active fragment of VEGF-C, retaining F14 ligand activity (claim 12)"

FI Peptide 103..225

FI Peptide /note "Preferred active fragment of VEGF-C, retaining F14 ligand activity (claim 14)"

FI Peptide 113..213

FI Peptide /note "Preferred active fragment of VEGF-C, retaining F14 ligand activity (claim 10)"

FI Peptide 113..227

FI Peptide /note "Preferred active fragment of VEGF-C, retaining F14 ligand activity (claim 11)"

FI Peptide 131..211

FI Peptide /note "Preferred active fragment of VEGF-C, retaining F14 ligand activity (claim 9)"

FI Peptide 151..221

FI Peptide /note "Preferred active fragment of VEGF-C, retaining F14 ligand activity (claim 8)"

XX W 07/05/90-A2.

XX 13 FEB 1997.

XX 21-AUG 1996; 96WO-FI00427.

XX 26-JUN-1996; 96US-0671573.

XX 01-AUG-1996; 96US-0510133.

XX 12-JAN-1996; 96US-0586895.

XX 14-FEB-1996; 96US-0601132.

XX (VHVE-) UNIV HUSLINI LICENSING LTD. CY.

XX A111478 K. Jolley V.

XX WPI: 1997-145688/13.

XX N-PSDB: AAT84276.

XX F14 receptor tyrosine kinase ligand and related nucleic acid - used to modulate growth of endothelial cells and for diagnosis of endothelial cell diseases

XX Claim 7: Page 112, 113, 183pp; English.

XX This polypeptide comprises the pre-pro sequence of human VEGF-C, a novel ligand that binds specifically to human F14 receptor tyrosine kinase (VEGFR-3), stimulating phosphorylation of the receptor. Its sequence was deduced from a cDNA clone (AAT84276) added from a rat prostate adenocarcinoma cell (ATCC CRL 1415) library. The polypeptide, or its active fragments, can be expressed in transformed or transfected host cells for use in claimed methods for detecting endothelial cells (e.g. to image lymphatic vessels, endothelial venules, F14 receptor in histological tissue) and also to modulate the growth of mammalian endothelial cells (e.g. to accelerate angiogenesis and to promote endothelial function of lymphatic vessels). Inhibitors of VEGFR-3, such as antibodies, can be used to control endothelial cell proliferation or lymphangioma or metastatic cancer.

XX Mouse and Rat VEGF C sequences (see AAT84276 35) have also been isolated.

XX Sequence A11478 AA

Query Match 100.0% Score 1053; DB 18; Length 419;

Best Local Similarity 100.0%; Pred. No. 1..46-94;

Matches 196; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

0Y 1 FRSGLDSDHPRACGATAVASQLEFQSRSSSVHEIMTVITYEWMKQVLRKQWQ 60

0b 32 FRSGLDSDHPRACGATAVASQLEFQSRSSSVHEIMTVITYEWMKQVLRKQWQ 91

0Y 51 HREDAALNSVETETPRHMAVETETKELVEMETQCMSEVETVEKEFVATRR 120

0b 51 HREDAALNSVETETPRHMAVETETKELVEMETQCMSEVETVEKEFVATRR 151

0Y 92 FRSGLDSDHPRACGATAVASQLEFQSRSSSVHEIMTVITYEWMKQVLRKQWQ 151

0b 92 FRSGLDSDHPRACGATAVASQLEFQSRSSSVHEIMTVITYEWMKQVLRKQWQ 211

0Y 121 FRSGLDSDHPRACGATAVASQLEFQSRSSSVHEIMTVITYEWMKQVLRKQWQ 160

0b 121 FRSGLDSDHPRACGATAVASQLEFQSRSSSVHEIMTVITYEWMKQVLRKQWQ 211

0Y 181 MSKIDYKRVHSHLR 196

0b 212 MSKIDYKRVHSHLR 227

RESULT 4

AAM11478

1b AAM11478 standard: Protein: A17 AA.

XX AAM11478;

AC AAM11478;

XX 24-APR-1997 (first entry)

XX DE Human vascular endothelial growth factor 2.

XX KW Vascular endothelial growth factor 2 (VEGF2) and angiogenesis;

XX KW endothelialization; coronary bypass surgery; vascular graft surgery;

XX KW angioplasty; angioplasty; therapy; diagnosis.

XX OS Homo sapiens.

XX Key Location/Qualifiers

XX Peptide 1..46

XX Protein 47..419

XX /label= Mat_Protein

XX /note "The mature protein is separately claimed (claim 5)"

XX W09639515-A1.

XX 12-DEC-1996.

XX 06-JUN-1996; 96WO-0509001.

XX 06-JUN-1996; 96US-0465968

XX (HUMA-) HUMAN GENE/ME SCI INT.

XX Cao L, Hu J, Rosen CA;

XX WPI: 1997-043137/04.

XX N-PSDB: AA151371.

XX DNA encoding human vascular endothelial growth factor 2 - used to promote angiogenesis or endothelialization in vascular graft surgery

XX Claim 1: Fig 2: 74pp; English.

XX Human vascular endothelial growth factor 2 (VEGF2) (AAM11478) is structurally related to the VEGF/PlGF family and is a potent activator for vascular endothelial cells, stimulating their growth and angiogenesis. The amino acid sequence of VEGF2 was deduced from a cDNA clone (AA151371) added from an early stage human (week 9) embryo cDNA library. VEGF2 polypeptides can be produced in transformed host cells and used to promote angiogenesis e.g. to

FN W0200058911-A1.
 XX
 PD 05-OCT-2000.
 XX
 PF 25-MAR-1999: 9900-0506133.
 XX
 PR 25-MAR-1999: 9900-0506133.
 XX
 PA (LHEM-) LHMWG INST CANCER RES.
 PA (UVEH-) UNIV HEINSINK LIEFENST LHO CY.
 PA (UVEH-) UNIV HEINSINK LIEFENST LHO CY.
 XX
 PI Fietell RE, Alitalo K, Finckel JN, Karkkainen M.
 XX
 DR WPI: 2000-579248/56.
 DR N-PSDB: AAV62406.
 XX
 FT Screening a human subject for increased risk of developing a lymphatic
 FT disorder, comprises assaying a nucleic acid to determine a mutation
 FT affecting the sequence of a vascular endothelial growth factor
 FT receptor-1.
 XX
 PS Disclosed: Page 60-61: 7app: English.
 XX
 CC The present sequence is the protein sequence for the human vascular
 CC endothelial growth factor 1 (VEGF-C). It was used to demonstrate the
 CC methods of the invention, which involve the screening of individuals to
 CC determine which vascular endothelial growth factor receptor 3 (VEGFR-3)
 CC also known as Flt4 or its like tyrosine kinase 4) alleles they possess
 CC and thus their likelihood of developing hereditary lymphoedema
 CC conditions associated with lymphoedema including Milroy's lymphoedema,
 CC which is early onset lymphoedema and lymphoedema praecox, which is late
 CC onset.
 XX
 SO Sequence 419 AA:
 XX
 Query Match 100.0% Score 1053: DB 21: Length 419:
 Best Local Similarity 100.0% Pred. No. 1,3e-94:
 Matches 196: Conservative 0: Mismatches 0: Indels 0: Gaps 0:
 QY 1 FESNIPSTAAPPDAPATAYASNDIEEGLRSVSVDELMTVLYPEYMWKQGLKGGMO 60
 DB 32 fcsqllstsdphagatagyskdlcqlrsvsdclmtvlypeywmkqglrkqmq 91
 QY 61 HNRPGANINSPTETTRFAAHYNIETKSTINBWKIQQMPREYIVVGEPCVATNTF 120
 DB 92 hnrpganinsptettrfaahynietkstinbwkicqmprevivvgepcvatntf 151
 QY 121 FKPCVAVRGCGGCSNCSGLOCMNTSTYSTIKTFEITVPLSQGKPVYISFANHTSGRC 180
 DB 152 fkpvcavrgcgcsnscsglocmntstystiktfelitvplsogkpvysfanhtsgrc 211
 QY 181 MSKIDYRVVHSIIIRK 196
 DB 212 mskidyrvvhsiiir 227
 XX
 RESULT 11
 ID AAV7144 standard: Protein: 419 AA.
 XX
 AC AAV7144:
 XX
 DT 22-OCT-2000 (first entry)
 XX
 DE Vascular endothelial growth factor-2 (VEGF-2).
 XX
 KW Vascular endothelial growth factor 2: VEGF-2; retinal angiogenesis;
 KW treatment; injury; degeneration; photoreceptors; eye;
 KW diabetic streaks; retinitis; pigmentosa; human;
 KW age-related macular degeneration; diabetic retinopathy.
 XX

US Homo sapiens.
 XX
 PN W0200045835-A1.
 XX
 PD 10-AUG-2000.
 XX
 PF 07-FEB-2000: 2000MO-0505047.
 XX
 PR 08-FEB-1999: 990S-0119179.
 PR 12-FEB-1999: 990S-0119926.
 PR 03-JUN-1999: 990S-0137796.
 PR 22-DEC-1999: 990S-0171505.
 XX
 PA (HUMA-) HUMAN GENOME SCI INT.
 XX
 PI Rosen CA, Alderson R, Molder R, Boschoke V, Follen SM.
 XX
 DR WPI: 2000-512627/48.
 DR N-PSDB: AAV52080.
 XX
 FT Treating injury or degeneration of photoreceptors comprises
 FT administering to a subject vascular endothelial growth factor 2
 FT (VEGF-2)
 XX
 ES Claim 31: Fig 1a-1c: 252pp: English.
 XX
 CC Administration of vascular endothelial growth factor 2 (VEGF-2)
 CC to a patient can be used for treating injury or degeneration of
 CC photoreceptors associated with wet, dry, and/or streaks, retinitis,
 CC pigmentosa, age-related macular degeneration, diabetic retinopathy,
 CC etc. VEGF-2 promotes angiogenesis, the formation of new blood
 CC vessels in the retina.
 XX
 SO Sequence 419 AA:
 XX
 Query Match 100.0% Score 1053: DB 21: Length 419:
 Best Local Similarity 100.0% Pred. No. 1,3e-94:
 Matches 196: Conservative 0: Mismatches 0: Indels 0: Gaps 0:
 QY 1 FESNIPSTAAPPDAPATAYASNDIEEGLRSVSVDELMTVLYPEYMWKQGLKGGMO 60
 DB 32 fcsqllstsdphagatagyskdlcqlrsvsdclmtvlypeywmkqglrkqmq 91
 QY 61 HNRPGANINSPTETTRFAAHYNIETKSTINBWKIQQMPREYIVVGEPCVATNTF 120
 DB 92 hnrpganinsptettrfaahynietkstinbwkicqmprevivvgepcvatntf 151
 QY 121 FKPCVAVRGCGGCSNCSGLOCMNTSTYSTIKTFEITVPLSQGKPVYISFANHTSGRC 180
 DB 152 fkpvcavrgcgcsnscsglocmntstystiktfelitvplsogkpvysfanhtsgrc 211
 QY 181 MSKIDYRVVHSIIIRK 196
 DB 212 mskidyrvvhsiiir 227
 XX
 RESULT 12
 ID AAV70749 standard: Protein: 419 AA.
 XX
 AC AAV70749:
 XX
 DT 17-AUG-2000 (first entry)
 XX
 DE Human prepro-vascular endothelial growth factor C.
 XX
 KW Human receptor tyrosine kinase; RTK; Flt4; fms-like tyrosine kinase 4;
 KW VEGF-3; vascular endothelial growth factor receptor-3; chromosome 5q35;
 KW cytototoxic tumour imaging; anti-tumour therapy; treatment; diagnosis;
 KW neoplastic disease; lymphoma; carcinoma; breast; squamous cell; melanoma;
 KW sarcoma; malignancy; VEGF-C; vascular endothelial growth factor C.
 XX

P1 Via-herruola S, Allitalo K, Hillunen MO, Jeltsch MK, Achen MC:
 XX WF: 2000-450544/40.
 DR N-PSDB: AAB00339, AAB00353.
 XX
 P1 Preventing stenosis and restenosis in mammals using vascular
 XX endothelial growth factor proteins or the nucleic acids encoding them
 XX
 PS Claim 5: Page 51-53: 61pp: English.
 XX
 CC The present amino acid sequence is the complete human prepro-vascular
 CC endothelial growth factor (VEGF)-C. VEGF-C has the ability to stimulate
 CC re-endothelialisation of an injured blood vessel, without significant
 CC stimulation of smooth muscle cell proliferation. It can bind to and
 CC stimulate VEGFR-2 (vascular endothelial growth factor receptor) and/or
 CC VEGFR-3 phosphorylation in cells that express such receptors. An
 CC anti-restenosis agent comprising either a VEGF-C gene or protein is
 CC used in a method to reduce or prevent restenosis and stenosis of a blood
 CC vessel following vascular trauma or a cardiovascular surgery and
 CC percutaneous transluminal coronary angioplasty.
 XX
 S0 Sequence 419 AA:
 XX
 Query Match: 100.0%; Score 1053; Dh 21; Length 419;
 Host Local Similarity 100.0%; Prod No 1 to 94
 Matches 196; Conservative 0; Mismatches 0; Indels 0; Gaps 0
 XX
 QY 1 FFSSTIDSIAPPAAPATAVASRLEFGLFESVSSFLMTVIEVSEWVWVQEPFQW 60
 DB |||||||
 DB 42 Fostidistadepdptdyaskdloqftrssqphetdijfywkykqjlkjlsk 91
 XX
 QY 61 HNFPGANISPTFTKFAAHNNTKSTINEMWYEQMPREVTWYFECVAINIF 120
 DB |||||||
 DB 92 hntfganlsptftkfaahnntkstinemwyeqmprevtwyfecvainif 151
 XX
 QY 121 FKRPVSWYQGGQNSERLQGNISYSKSTLFTFLVLSGGKPPVTSANHSQIC 180
 DB |||||||
 DB 152 fkrpvswyqggqnserlqgnisyskstlftflvlsggkppvtsanhsqic 211
 XX
 QY 181 MSKLVYGVHSTIKR 196
 DB |||||||
 DB 212 msklvgyvhsitrr 227
 XX
 RESULT 14
 ID AAV97670 standard: Protein: 419 AA.
 XX
 AC AAV97670:
 XX
 FT 67-APP-2001 (first entry)
 XX
 LE Human VEGF-B protein sequence.
 XX
 LE Human VEGF-B protein sequence.
 XX
 KM Human angiogenic protein: wound healing; vascular tissue repair;
 KM peripheral arterial disease; critical limb ischaemia; coronary disease;
 KM anti-thrombotic; tumour; inflammation; diabetic neuropathy; psoriasis;
 KM thrombolytic arthritis; autoimmune disease; allergy; cancer; therapy;
 KM infectious disease; neurodegeneration;
 KM vascular endothelial growth factor-B; VEGF-B.
 XX
 OS Homo sapiens.
 XX
 FN W:200075164-A1:
 XX
 PL 14 DEC-2000.
 XX
 PE 01-JUN-2000: 2000WO-0814925.
 XX
 PR 04-JUN-1999: 9905-0137796.
 XX
 FA (HOMA-) HUMAN GENOME SET 1M7.

XX
 P1 Rosen CA, Ruben SM, Hu J, Tao L:
 XX WF: 2001-071957/08.
 DR N-PSDB: AAV1004.
 XX
 P1 New nucleic acid encoding angiogenic proteins, useful e.g. for
 PT promoting healing of wounds and treating peripheral arterial disease,
 PT critical limb ischaemia or coronary disease
 XX
 PS Claim 11: Fig 1: 244pp: English.
 XX
 CC This sequence is vascular endothelial growth factor-B (VEGF-B),
 CC which is an angiogenic protein of the invention. The angiogenic proteins
 CC and the DNA sequences encoding them, are used to prevent, treat or
 CC ameliorate disease and to detect diseases, or susceptibility, by
 CC detecting mutations or the presence or amount of angiogenic protein
 CC expression. Particularly they are used to stimulate wound healing,
 CC growth of damaged bone and tissue, and for repair of vascular tissue,
 CC especially peripheral arterial disease, critical limb ischaemia or
 CC coronary disease. Antagonists of the sequences are used to inhibit
 CC angiogenesis in tumours and to treat inflammation (where associated with
 CC increased vascular permeability), diabetic retinopathy, rheumatoid
 CC arthritis or psoriasis. Antagonists are also useful for stimulating
 CC (lymph)angiogenesis. The proteins are also used to identify specific
 CC binding agents (potential therapeutic agents) and to raise antibodies.
 CC The antibodies are useful as the specific (ant)agonists for detection,
 CC purification and targeting of proteins for in vivo or in vitro diagnosis
 CC (including imaging) or for therapy (including when linked to e.g. a label
 CC or cytotoxin), and for immunotyping of cells, e.g. for detecting animal
 CC residual disease or haematopoietic progenitor/stem cells. It is also
 CC contemplated that the sequences might be useful for treating a very wide
 CC range of other disorders, e.g. autoimmune diseases, allergy, cancer,
 CC infectious diseases (viral, bacterial, fungal or parasitic),
 CC neurodegenerative disease, also an abnormally agents or for stimulation
 CC regeneration of the nervous system etc.
 XX
 S0 Sequence 419 AA:
 XX
 Query Match: 100.0%; Score 1053; Dh 22; Length 419;
 Host Local Similarity 100.0%; Prod No 1 to 94;
 Matches 196; Conservative 0; Mismatches 0; Indels 0; Gaps 0
 XX
 QY 1 FFSSTIDSIAPPAAPATAVASRLEFGLFESVSSFLMTVIEVSEWVWVQEPFQW 60
 DB |||||||
 DB 32 Fostidistadepdptdyaskdloqftrssqphetdijfywkykqjlkjlsk 91
 XX
 QY 61 HNFPGANISPTFTKFAAHNNTKSTINEMWYEQMPREVTWYFECVAINIF 120
 DB |||||||
 DB 92 hntfganlsptftkfaahnntkstinemwyeqmprevtwyfecvainif 151
 XX
 QY 121 FKRPVSWYQGGQNSERLQGNISYSKSTLFTFLVLSGGKPPVTSANHSQIC 180
 DB |||||||
 DB 152 fkrpvswyqggqnserlqgnisyskstlftflvlsggkppvtsanhsqic 211
 XX
 QY 181 MSKLVYGVHSTIKR 196
 DB |||||||
 DB 212 msklvgyvhsitrr 227
 XX
 RESULT 15
 ID AAB37605 standard: Protein: 419 AA.
 XX
 AC AAB37605:
 XX
 FT 27-FEB-2001 (first entry)
 XX
 LE Human VEGF-C.
 XX
 LE Human VEGF-C.
 XX
 KM Human gene therapy; lymphatic disorder; hereditary lymphoedema; F114;
 KM vascular endothelial growth factor receptor-3; VEGFR-3; VEGF-C; VEGF-B;

XX time 1.00e+11 ypsilon_kinase_4.

XX Homo sapiens.

XX cA228470 A1.

XX 26 SEP 2000.

XX 29 SEP 1999: 990A 228470.

XX 26 MAR 1999: 990A 0506133.

XX 16 AUG 1999: 990DS 0475248.

XX (OYEI) GENV PETSBERG.

XX (OYEI) GENV PETSBERG.

XX (OYEI) GENV PETSBERG.

XX (OYEI) GENV PETSBERG.

XX (OYEI) GENV PETSBERG.

XX (OYEI) GENV PETSBERG.

XX (OYEI) GENV PETSBERG.

XX (OYEI) GENV PETSBERG.

XX (OYEI) GENV PETSBERG.

XX (OYEI) GENV PETSBERG.

XX (OYEI) GENV PETSBERG.

XX (OYEI) GENV PETSBERG.

XX (OYEI) GENV PETSBERG.

XX (OYEI) GENV PETSBERG.

XX (OYEI) GENV PETSBERG.

XX (OYEI) GENV PETSBERG.

XX (OYEI) GENV PETSBERG.

XX (OYEI) GENV PETSBERG.

XX (OYEI) GENV PETSBERG.

XX (OYEI) GENV PETSBERG.

XX (OYEI) GENV PETSBERG.

XX (OYEI) GENV PETSBERG.

XX (OYEI) GENV PETSBERG.

XX (OYEI) GENV PETSBERG.

XX (OYEI) GENV PETSBERG.

XX (OYEI) GENV PETSBERG.

XX (OYEI) GENV PETSBERG.

XX (OYEI) GENV PETSBERG.

XX (OYEI) GENV PETSBERG.

XX (OYEI) GENV PETSBERG.

XX (OYEI) GENV PETSBERG.

XX (OYEI) GENV PETSBERG.

XX (OYEI) GENV PETSBERG.

Search completed: December 26, 2001, 11:28:08

Job Time: 4.21 Sec

| Query Match | Score | Id | Length |
|-----------------------|--------|--------------|--------|
| Host Local Similarity | 100.00 | 1054 | 106 |
| Matches | 1967 | Conservative | 07 |
| | | Mismatches | 07 |
| | | Indels | 07 |
| | | Gaps | 07 |
| 1 | 100.00 | 1054 | 106 |
| 2 | 100.00 | 1054 | 106 |
| 3 | 100.00 | 1054 | 106 |
| 4 | 100.00 | 1054 | 106 |
| 5 | 100.00 | 1054 | 106 |
| 6 | 100.00 | 1054 | 106 |
| 7 | 100.00 | 1054 | 106 |
| 8 | 100.00 | 1054 | 106 |
| 9 | 100.00 | 1054 | 106 |
| 10 | 100.00 | 1054 | 106 |
| 11 | 100.00 | 1054 | 106 |
| 12 | 100.00 | 1054 | 106 |
| 13 | 100.00 | 1054 | 106 |
| 14 | 100.00 | 1054 | 106 |
| 15 | 100.00 | 1054 | 106 |
| 16 | 100.00 | 1054 | 106 |
| 17 | 100.00 | 1054 | 106 |
| 18 | 100.00 | 1054 | 106 |
| 19 | 100.00 | 1054 | 106 |
| 20 | 100.00 | 1054 | 106 |
| 21 | 100.00 | 1054 | 106 |
| 22 | 100.00 | 1054 | 106 |
| 23 | 100.00 | 1054 | 106 |
| 24 | 100.00 | 1054 | 106 |
| 25 | 100.00 | 1054 | 106 |
| 26 | 100.00 | 1054 | 106 |
| 27 | 100.00 | 1054 | 106 |
| 28 | 100.00 | 1054 | 106 |
| 29 | 100.00 | 1054 | 106 |
| 30 | 100.00 | 1054 | 106 |
| 31 | 100.00 | 1054 | 106 |
| 32 | 100.00 | 1054 | 106 |
| 33 | 100.00 | 1054 | 106 |
| 34 | 100.00 | 1054 | 106 |
| 35 | 100.00 | 1054 | 106 |
| 36 | 100.00 | 1054 | 106 |
| 37 | 100.00 | 1054 | 106 |
| 38 | 100.00 | 1054 | 106 |
| 39 | 100.00 | 1054 | 106 |
| 40 | 100.00 | 1054 | 106 |
| 41 | 100.00 | 1054 | 106 |
| 42 | 100.00 | 1054 | 106 |
| 43 | 100.00 | 1054 | 106 |
| 44 | 100.00 | 1054 | 106 |
| 45 | 100.00 | 1054 | 106 |
| 46 | 100.00 | 1054 | 106 |
| 47 | 100.00 | 1054 | 106 |
| 48 | 100.00 | 1054 | 106 |
| 49 | 100.00 | 1054 | 106 |
| 50 | 100.00 | 1054 | 106 |
| 51 | 100.00 | 1054 | 106 |
| 52 | 100.00 | 1054 | 106 |
| 53 | 100.00 | 1054 | 106 |
| 54 | 100.00 | 1054 | 106 |
| 55 | 100.00 | 1054 | 106 |
| 56 | 100.00 | 1054 | 106 |
| 57 | 100.00 | 1054 | 106 |
| 58 | 100.00 | 1054 | 106 |
| 59 | 100.00 | 1054 | 106 |
| 60 | 100.00 | 1054 | 106 |
| 61 | 100.00 | 1054 | 106 |
| 62 | 100.00 | 1054 | 106 |
| 63 | 100.00 | 1054 | 106 |
| 64 | 100.00 | 1054 | 106 |
| 65 | 100.00 | 1054 | 106 |
| 66 | 100.00 | 1054 | 106 |
| 67 | 100.00 | 1054 | 106 |
| 68 | 100.00 | 1054 | 106 |
| 69 | 100.00 | 1054 | 106 |
| 70 | 100.00 | 1054 | 106 |
| 71 | 100.00 | 1054 | 106 |
| 72 | 100.00 | 1054 | 106 |
| 73 | 100.00 | 1054 | 106 |
| 74 | 100.00 | 1054 | 106 |
| 75 | 100.00 | 1054 | 106 |
| 76 | 100.00 | 1054 | 106 |
| 77 | 100.00 | 1054 | 106 |
| 78 | 100.00 | 1054 | 106 |
| 79 | 100.00 | 1054 | 106 |
| 80 | 100.00 | 1054 | 106 |
| 81 | 100.00 | 1054 | 106 |
| 82 | 100.00 | 1054 | 106 |
| 83 | 100.00 | 1054 | 106 |
| 84 | 100.00 | 1054 | 106 |
| | | | |

RESULT 3
 US-09-042-105-18
 Sequence ID: Application US/09042105
 Patent No. 604157
 GENERAL INFORMATION:
 APPLICANT: HU, JING-SHAN
 APPLICANT: ROSEN, CRAIG A.
 APPLICANT: CAO, LIANG
 TITLE OF INVENTION: VASCULAR ENDOTHELIAL GROWTH FACTOR 2
 NUMBER OF SEQUENCES: 45
 CORRESPONDENCE ADDRESS:
 ADDRESSEE: STERN, KESSLER, GOLDSTEIN & FOX
 STREET: 1100 NEW YORK AVENUE
 CITY: WASHINGTON
 STATE: DC
 COUNTRY: USA
 ZIP: 20005
 COMPUTER READABLE FORM:
 MEDIUM TYPE: floppy disk
 COMPUTER: IBM PC compatible
 OPERATING SYSTEM: PC-DOS/MS-DOS
 SOFTWARE: Patented Release #1.0, Version #1.40
 CURRENT APPLICATION DATA:
 APPLICATION NUMBER: US/09/042,105
 FILING DATE: HEREWITH
 CLASSIFICATION:
 PRIOR APPLICATION DATA:
 APPLICATION NUMBER: US 08/207,550
 FILING DATE: 8-MAR-1994
 CLASSIFICATION:
 PRIOR APPLICATION DATA:
 APPLICATION NUMBER: US 08/465,968
 FILING DATE: 06-JUN-1995
 CLASSIFICATION:
 PRIOR APPLICATION DATA:
 APPLICATION NUMBER: TO BE ASSIGNED
 FILING DATE: 24-DEC-1997
 CLASSIFICATION:
 ATTORNEY/AGENT INFORMATION:
 NAME: ERIC K. STEER
 REGISTRATION NUMBER: 46,688
 EXPIRATION DATE: 4-7-2006
 TELECOMMUNICATION INFORMATION:
 TELEPHONE: (202) 371-2600
 TELEFAX: (202) 371-2540
 INFORMATION FOR SEQ ID NO: 18:
 SEQUENCE CHARACTERISTICS:
 LENGTH: 419 amino acids
 TYPE: amino acid
 STANDARDS:
 FORMAT: linear
 MOLECULE TYPE: protein

TELEPHONE: (202) 371-2540
 TELEFAX: (202) 371-2540
 INFORMATION FOR SEQ ID NO: 4:
 DEFINING CHARACTERISTICS:
 LENGTH: 450 amino acids
 TYPE: amino acid
 TOPOLOGY: linear
 MULTIPLE TYPE: protein
 US 09-042-105 4

Query Match 82.0% Score 869; DB 2; Length 450;
 Host Local Similarity 100.0% Prod. No. 1,60-87;
 Matches 158; Conservation 0; Mismatches 0; Indels 0; Gaps 0;

07 49 MIVLYVYVWYWRVGRGQWQINPQANINSELEELKFAAHVNFILKSTINWPKT 98
 1 MIVLYVYVWYWRVGRGQWQINPQANINSELEELKFAAHVNFILKSTINWPKT 60
 07 99 GMPREVTVWKEVAVNITKRPVSVYKGGVVRGKQKMSISYLSKTLLEET 158
 1 GMPREVTVWKEVAVNITKRPVSVYKGGVVRGKQKMSISYLSKTLLEET 120
 07 159 VPISGQPKVITISFANHSICWMSKILVYGVNISTPR 100
 121 VPISGQPKVITISFANHSICWMSKILVYGVNISTPR 158

RESULT 10
 US 08-624-996 2
 2 Sequence 2; Application US/08624996A
 2 Patent No. 6,438,200
 2 GENERAL INFORMATION:
 2 APPLICANT: Rosen, Craig A.
 2 APPLICANT: Rosen, Craig A.
 2 ATTORNEY/AGENT INFORMATION:
 2 NAME: Eric K. Steff
 2 REGISTRATION NUMBER: 46,098
 2 REFERENCE TO: 52, 50906; 1498, 10000-3765
 2 TELECOMMUNICATION INFORMATION:
 2 TELEPHONE: (202) 371-2540
 2 TELEFAX: (202) 371-2540
 2 INFORMATION FOR SEQ ID NO: 4:
 2 SEQUENCE CHARACTERISTICS:
 2 LENGTH: 450 amino acids
 2 TYPE: amino acid
 2 TOPOLOGY: linear
 2 MULTIPLE TYPE: protein
 2 US 08-624-996 2

Query Match 82.0% Score 869; DB 2; Length 450;
 Host Local Similarity 100.0% Prod. No. 1,60-87;
 Matches 158; Conservation 0; Mismatches 0; Indels 0; Gaps 0;

07 49 MIVLYVYVWYWRVGRGQWQINPQANINSELEELKFAAHVNFILKSTINWPKT 98
 1 MIVLYVYVWYWRVGRGQWQINPQANINSELEELKFAAHVNFILKSTINWPKT 60
 07 99 GMPREVTVWKEVAVNITKRPVSVYKGGVVRGKQKMSISYLSKTLLEET 158
 1 GMPREVTVWKEVAVNITKRPVSVYKGGVVRGKQKMSISYLSKTLLEET 120
 07 159 VPISGQPKVITISFANHSICWMSKILVYGVNISTPR 100
 121 VPISGQPKVITISFANHSICWMSKILVYGVNISTPR 158

RESULT 11
 US 09-042-105 4
 2 Sequence 4; Application US/09042105
 2 Patent No. 6,040,157

GENERAL INFORMATION:
 APPLICANT: ROSEN, CRAIG A.
 APPLICANT: ROSEN, CRAIG A.
 TITLE OF INVENTION: VASCULAR ENDOTHELIAL GROWTH FACTOR 2
 NUMBER OF SEQUENCES: 45
 CORRESPONDENCE ADDRESS:
 ADDRESSEE: STEPHEN KESSLER, 4711 STEVEN A. BOY
 STREET, 1100 NEW YORK AVENUE
 CITY: WASHINGTON
 STATE: DC
 COUNTRY: USA
 ZIP: 20005
 COMPUTER REAMABLE FORM:
 MEDIUM TYPE: floppy disk
 COMPUTER: IBM PC compatible
 OPERATING SYSTEM: PC-DOS/MS-DOS
 SOFTWARE: Patout In Release #1.0, Version #1.40
 CURRENT APPLICATION DATA:
 APPLICATION NUMBER: US-09/042,105
 FILING DATE: HEREWITH
 CLASSIFICATION:
 PRIOR APPLICATION DATA:
 APPLICATION NUMBER: US-08/446,594
 FILING DATE: 06-JUN-1995
 CLASSIFICATION:
 PRIOR APPLICATION DATA:
 APPLICATION NUMBER: 10-BE-ASSIGNED
 FILING DATE: 24-DEC-1997
 CLASSIFICATION:
 ATTORNEY/AGENT INFORMATION:
 NAME: ERIC K. STEFF
 REGISTRATION NUMBER: 46,098
 REFERENCE TO: 52, 50906; 1498, 10000-3765
 TELECOMMUNICATION INFORMATION:
 TELEPHONE: (202) 371-2540
 TELEFAX: (202) 371-2540
 INFORMATION FOR SEQ ID NO: 4:
 SEQUENCE CHARACTERISTICS:
 LENGTH: 450 amino acids
 TYPE: amino acid
 TOPOLOGY: linear
 MULTIPLE TYPE: protein
 US 09-042-105 4

Query Match 82.0% Score 869; DB 4; Length 450;
 Host Local Similarity 100.0% Prod. No. 1,60-87;
 Matches 158; Conservation 0; Mismatches 0; Indels 0; Gaps 0;

07 49 MIVLYVYVWYWRVGRGQWQINPQANINSELEELKFAAHVNFILKSTINWPKT 98
 1 MIVLYVYVWYWRVGRGQWQINPQANINSELEELKFAAHVNFILKSTINWPKT 60
 07 99 GMPREVTVWKEVAVNITKRPVSVYKGGVVRGKQKMSISYLSKTLLEET 158
 1 GMPREVTVWKEVAVNITKRPVSVYKGGVVRGKQKMSISYLSKTLLEET 120
 07 159 VPISGQPKVITISFANHSICWMSKILVYGVNISTPR 100
 121 VPISGQPKVITISFANHSICWMSKILVYGVNISTPR 158

RESULT 12
 US 08-610-134A-43
 2 Sequence 33; Application US/08610134A
 2 Patent No. 6,421,839
 2 GENERAL INFORMATION:
 2 APPLICANT: Altitude, Karl

